PART TIME COURSES 1973-74

THE GEORGE BROWN COLLEGE
OF APPLIED ARTS
AND TECHNOLOGY

P.O. BOX 1015, STATION B
TORONTO M5T 2T9
PHONE: (416) 967-1212

PART-TIME COURSE FEES FOR SENIOR CITIZENS

Anyone registering for a part-time course who has attained the age of 65 on or before the start date of the course will pay fees at the following reduced rates:—

Courses up to 60 hours duration	$5.00
Courses beyond 60 hours duration	$5.00

plus a prorated amount for the hours beyond 60 at the rate of $5.00 for 60 hours.

Education For Employment

AFFIX STAMP HERE

THE GEORGE BROWN COLLEGE of Applied Arts and Technology,

P.O. BOX 1015, Station "B", TORONTO, ONTARIO M5T 2T9

[illegible] Basic Housekeeping Supervision
CARP 903 Carpet Care

LANGUAGE TRAINING COURSES
LT 907 Canadian French

THIS IS YOUR RETURN ENVELOPE

PLEASE ENCLOSE CHEQUE OR MONEY ORDER, WET GUMMED AREAS AND SEAL

THE GEORGE BROWN COLLEGE OF APPLIED ARTS & TECHNOLOGY

PART TIME APPLICATION Please Print

Course Name | Course Code | Campus

2nd Choice | Course Code | Campus

3rd Choice | Course Code | Campus

M T W T F
Day(s) Requested (Where Applicable)

Mr. ☐ Mrs. ☐
Miss ☐ Ms ☐
(Check one)

Surname | Given Name(s)

Address — Street, Apt. No.

City | Province | Postal Code

Business Phone | Home Telephone | Social Insurance Number

Day | Month | Year
Date of Birth

APPLICANTS MUST BE ONE OF THE FOLLOWING: Canadian Citizen, Landed Immigrant, Student Visa Holder

Date | Signature

Make cheques or money order payable to GEORGE BROWN COLLEGE.

TEAR ALONG PERFORATION LINE FOR SELF MAILING APPLICATION

E 1164

ADDENDA

The following additional part-time courses were approved after the main calendar had gone to press:

ACADEMIC STUDIES COURSES

THEA 905	Modern Dance

BUSINESS & COMMERCE

SH 900	Secretarial Science Special
LAW 900	Law for the Layman
****	Buying a Home
SALE 900	Industrial Sales
BMDP 900	Psychology of Professional Selling
BMDP 901	Marketing for the Tourist Industry
BMDP 902	Marketing for Manufacturers
BMDP 903	Marketing for the Middleman
BMDP 904	Advertising
BMDP 909	Effective Supervision Administration
BMDP 910	Human Relations
BMDP 911	Effective Communications
BMDP 912	Personnel Management
BMDP 916	Purchasing
BMDP 919	Business Law
BMDP 920	Planning for Profits
BMDP 921	Starting and Operating a Business
BMDP 922	Effective Use of E.D.P.
BMDP 925	Management for Results
BMDP 926	International Marketing
BMDP 927	Financial Management

EDUCATIONAL MEDIA COURSES

AV 920	Visual Communications III: Photography
AV 921	Visual Communications II: Visuals

FASHION TECHNOLOGY COURSES

DRES 156	Tailoring II (Intermediate)
DRES 246	Tailoring III
DRES 142	Textiles, Fabrics, Etc. I (Elementary)
DRES 152	Textiles, Fabrics, Etc. II (Intermediate)

FOOD TECHNOLOGY COURSES

F 900	Basic Practical Cookery
F 904	Advanced Practical Cookery

HOUSEKEEPING SERVICES ADMINISTRATION

HSA 950	Basic Skills of Cleaning & Sanitation for Supervisors
HSA 951	Basic Housekeeping Supervision
CARP 903	Carpet Care

LANGUAGE TRAINING COURSES

LT 907	Canadian French

MUSIC COURSES

MU 902	Musical Grammar — Part I
MU 903 (a)	Musical Grammar — Part II
MU 904 (b)	
MU 905 (c)	
MU 906 (a)	Musical Grammar — Part III
MU 907 (b)	
MU 908 (c)	
MU 909 (d)	
MU 910	Popular Keyboard (Group Instruction)
MU 911	
MU 912	
MU 913	Song Writing
MU 914	Stage Band
MU 915	College Choir

PROFESSIONAL DEVELOPMENT

ES 908	Psychology of Professional Selling
ES 909	Work Study
ES 910	Work Simplification
ES 911	Purchasing
ES 912	Human Resources Management
ES 913	Management for Results
ES 914	Leading & Motivating (Job Enrichment)

REAL ESTATE

RE 900	Introduction to Real Estate (Day Classes)
RE 901	Introduction to Real Estate (Evening Classes)

SPECIAL TECHNIQUES

AUS 900	Underwater Science

THEATRE ARTS

THEA 905 **MODERN DANCE**

Fee: $75.00, 150 hours, Campus T

This course is offered in collaboration with the Toronto Branch of the Canadian Dance-Drama Association. Instruction is normally at the rate of about 15 hours per week in accordance with arrangements made by the Association. Contact Gary Colwell, 863-1836.

BUSINESS & COMMERCE

SECRETARIAL SCIENCE SPECIAL

SH 900 **Fee: $90.00, 12 weeks, Campus T**

Daily from 9:00 to 3:30 p.m.

An intensive summer program for university students or equivalent, who wish to add the secretarial skill dimension to their degree program. The program will enable university graduates to obtain employment in the secretarial field upon graduation, and/or will provide them with the necessary skills for taking notes, typing essays, theses, and the various papers required during their university term.
Prerequisite: University student or equivalency determined by test.
Course Content: Forkner shorthand, typewriting, office practice, and business machines.

LAW FOR THE LAYMAN

LAW 900 **Fee: $30.00, 60 hours, Campus T**

Monday and Wednesday, 7:00 to 10:00 p.m.

This course is intended to inform the student of the basic laws, federal, provincial, and municipal, which bear upon his everyday life.
Course Content: Legal contracts in reference to home, furniture, appliances, and other forms of purchase contracts. Mortgage terms and definitions, civil rights, title search and other legal matters affecting day to day living.

BUYING A HOME (subject to approval)

**** **Fee: $30.00, 12 hours, Campus T**

Tuesday and Thursday, 7:30 to 9:30 p.m.

This course is offered for those considering the purchase of a house or condominium.
Course Content: Choosing the right home and neighborhood (including zoning considerations); the meaning of ownership in condominium; approaches to financing and value; rights and responsibilities in real property ownership; the role of trades and professions in home buying; current real estate market conditions.

INDUSTRIAL SALES

SALE 900 **Fee: $30.00, 60 hours, Campus T**

Monday, 5:00 to 7:30 p.m.

To give the technology student an understanding of sales planning and sales techniques. Emphasis will be placed on making profitable contacts for an immediate start at a high level of sales.
Course Content: Lecture and cases, sales training utilizing tape and video self-analysis.

PSYCHOLOGY OF PROFESSIONAL SELLING

BMDP 900 **Fee: $50.00, 25 hours, Campus T**

Thursday, 5:30 to 8:00 p.m.

This course stresses the psychological approach to selling.
Course Content: Deals with the needs, characteristics, and behavior of prospects and customers and illustrates how this knowledge can be used for more effective selling.
Prerequisite: Grade 12 or equivalent standing.

MARKETING FOR THE TOURIST INDUSTRY

BMDP 901 **Fee: $50.00, 25 hours, Campus T**

Monday, 5:30 to 8:00 p.m.

The course material covers the many subjects that must be covered by a successful tourist marketing program.
Prerequisite: Grade 12 or equivalent standing.
Course Content: Economic aspects of tourism; promoting convention business; developing a community promotion program; handling of tourists and visitors in retail stores, restaurants, motels, service stations, etc.

MARKETING FOR MANUFACTURERS

BMDP 902 **Fee: $50.00, 25 hours, Campus T**
Tuesday, 5:30 to 8:00 p.m.

This course stresses the influence of the consumer and the interdependence of the various marketing elements.

Prerequisite: Grade 12 or equivalent standing.

Course Content: Product development; pricing; selection of marketing channels; training and compensation of salesmen; determining advertising policy.

MARKETING FOR THE MIDDLEMAN

BMDP 903 **Fee: $50.00, 25 hours, Campus T**
Wednesday, 5:30 p.m. to 8:00 p.m.

This course discusses through 24 case studies the principal marketing problems that face distributors today.

Prerequisite: Grade 12 or equivalent standing.

Course Content: Market analysis; product selection; customer service; pricing; sales cost analysis; distribution systems; etc.

ADVERTISING

BMDP 904 **Fee: $50.00, 25 hours, Campus T**
Thursday, 5:30 to 8:00 p.m.

Through a series of case studies participants will examine the use of advertising to stimulate sales, compare the advantages of different media and consider the factors involved in the preparation of good advertising.

Prerequisite: Grade 12 or equivalent standing.

Course Content: Advertising, when to use it; developing a program; advertising agencies; the media of advertising; direct mail, newspapers, etc.

EFFECTIVE SUPERVISION ADMINISTRATION

BMDP 909 **Fee: $50.00, 25 hours, Campus T**
Monday, 5:30 to 8:00 p.m.

This course provides administrative supervisors with problem-solving techniques and includes tips on managing high-talent personnel.

Prerequisite: Grade 12 or equivalent standing.

Course Content: Identifying the role of the supervisor; analyzing problems; organizing and planning; the human factor; information flow; evaluatig operations and controlling activities.

HUMAN RELATIONS

BMDP 910 **Fee: $50.00, 25 hours, Campus T**
Tuesday, 5:30 to 8:00 p.m.

This course covers the many areas where an understanding of people is essential.

Prerequisite: Grade 12 or equivalent standing.

Course Content: Understanding people; selection and induction; training; morale; communications; performance appraisal; discipline; leadership.

EFFECTIVE COMMUNICATIONS

BMDP 911 **Fee: $50.00, 25 hours, Campus T**
Wednesday, 5:30 to 8:00 p.m.

This course covers the "why" as well as the "how" of communications.

Prerequisite: Grade 12 or equivalent standing.

Course Content: The meaning of communication; common problems; "it's a two-way street"; verbal and written communication; etc.

PERSONNEL MANAGEMENT

BMDP 912 **Fee: $50.00, 25 hours, Campus T**
Thursday, 5:30 to 8:00 p.m.

This course is directed towards employee relations techniques.

Prerequisite: Grade 12 or equivalent standing.

Course Content: Selection and training; pay setting methods; performance appraisal; morale; delegation of authority; dealing with unions.

PURCHASING

BMDP 916 **Fee: $50.00, 25 hours, Campus T**
Tuesday, 5:30 to 8:00 p.m.

This course is designed to emphasize certain fundamentals of purchasing that may be applied to any manufacturing business with the object of avoiding costly errors and building a more profitable operation.

Prerequisite: Grade 12 or equivalent standing.

Course Content: Determination of needs by function; delivery; quality and price; supplier selection and evaluation; value analysis; refinements in purchasing.

BUSINESS LAW

BMDP 919 **Fee: $50.00, 25 hours, Campus T**
Monday, 5:30 to 8:00 p.m.

This course will give the businessman or woman a basic understanding of some of the points of law that arise frequently in business.

Prerequisite: Grade 12 or equivalent standing.

Course Content: Contracts, conditional and absolute sales contracts; employee relations, negotiable instruments; partnerships; corporations; leases; bankruptcy; mechanics liens; patents; trade marks.

PLANNING FOR PROFITS

BMDP 920 **Fee: $50.00, 25 hours, Campus T**
Wednesday, 5:30 to 8:00 p.m.

The course deals with basic principles of financial management. It emphasizes the information that may be drawn from financial statements, special reports and analyses, and examines how this information can be utilized by an astute businessman.

Prerequisite: Grade 12 or equivalent standing.

Course Content: Management information in the profit and loss statement; in the balance sheet; working capital and cash: Where did it go?; the profit plan; decision-making; break-even point analysis.

STARTING AND OPERATING A BUSINESS

BMDP 921 **Fee: $50.00, 25 hours, Campus T**

Thursday, 5:30 to 8:00 p.m.

The course deals with the principal aspects to be considered in starting and operating a business.
Prerequisite: Grade 12 or equivalent standing.
Course Content: Personal inventory; analysis of the community; location study; buy or start a business?; adequate capital; marketing; personnel management.

EFFECTIVE USE OF E.D.P.

BMDP 922 **Fee: $50.00, 25 hours, Campus T**

Monday, 5:30 to 8:00 p.m.

This course gives participants an appreciation of the use of E.D.P. service in small and medium sized businesses and provides a background for intelligent evaluation and selection of, and negotiation with, a data processing service bureau.
Prerequisite: Grade 12 or equivalent standing.
Course Content: Appreciation of and determining need for E.D.P.; evaluating service bureaus; use of E.D.P. in sales analysis; accounts receivable; accounts payable; inventory; payroll.

MANAGEMENT FOR RESULTS

BMDP 925 **Fee: $50.00, 25 hours, Campus T**

Wednesday, 5:30 to 8:00 p.m.

The course examines the whole process of management. Emphasis is placed on the role of the manager, on basic principles and on advanced concepts such as green lighting, motivation, job enrichment, and management by objectives.
Prerequisite: Grade 12 or equivalent standing.
Course Content: Fundamental principles of management, modern concepts of motivation, management by objectives.

INTERNATIONAL MARKETING

BMDP 926 **Fee: $50.00, 25 hours, Campus T**

Tuesday, 5:30 to 8:00 p.m.

The course deals with conceptual international marketing tools, techniques and approaches.
Prerequisite: Grade 12 or equivalent standing.
Course Content: Appraising international marketing opportunities; managing the international marketing mix; grouping for export; marketing adaptation in the international environment.

FINANCIAL MANAGEMENT

BMDP 927 **Fee: $50.00, 25 hours, Campus T**

Monday, 5:30 to 8:00 p.m.

This course takes the form of an intensive workshop in modern financial management tools. The material is presented through case studies that are oriented to give the businessman a full understanding of the techniques presented and the ability to apply the material to his own business.
Prerequisite: Grade 12 or equivalent standing.
Course Content: Management of inventories; of receivables; of trade credit and bank credit; negotiating bank credit; forum and wind-up.

EDUCATIONAL MEDIA COURSES

VISUAL COMMUNICATIONS III: PHOTOGRAPHY

AV 920 **Fee: $90.00, 60 hours, Campus T**

Monday & Thursday, 6:00 to 9:00 p.m.

The objective of this course is to provide instruction designed to meet the requirements of technicians in the audio-visual field. It provides a thorough knowledge of the subjects involved, and the students will undertake a considerable amount of practical work.
Course Content: During this course, students will be instructed in the practice of photography, using both black and white and colour films. Both the use and the maintenance of "hardware" will receive close attention. Possible applications of the resulting "software" will be considered.

VISUAL COMMUNICATIONS II: VISUALS

AV 921 **Fee: $90.00, 60 hours, Campus and time to be decided**

For information telephone 967-1212, ext. 581

The objective of this course is to provide instruction designed to meet the requirements of technicians in the audio-visual field. It provides a thorough knowledge of the subjects involved, and the students will undertake a considerable amount of practical work.
Course Content: During this course, students will be instructed in the preparation of overhead projectuals, produced by various techniques. Also they will prepare slide-sound programs. Both the use and maintenance of all "hardware" will receive close attention. Possible applications for the resulting "software" will be considered.

FASHION TECHNOLOGY COURSES

TAILORING II (INTERMEDIATE)

DRES 156 **Fee: $30.00, 60 hours, Campus K (Spring)**

Monday, 9:00 to 12 noon or Tuesday 9:00 to 12 noon

C.U. 4.0 Certificate
C.U. 3.0 Diploma
Prerequisite: DRES 146
Course Content: Ladies' tailoring layout; cutting, etc., as in DRES 146 with more advanced stages including topper, cape, etc.

TAILORING III

DRES 246 **Fee: $30.00, 60 hours, Campus K (Fall)**

Time — to be announced

For information telephone 967-1212, ext. 311

C.U. 3.0 Diploma
Prerequisite: DRES 156

TEXTILES, FABRICS, ETC. I (ELEMENTARY)

DRES 142 **Fee: $30.00, 60 hours, Campus K (Fall)**

Tuesday, 7:00 to 10:00 p.m.

or Friday 9:00 to 12 noon or 1:00 to 4:00 p.m.

or Tuesday 12 noon to 3:00 p.m.

C.U. 1.5 Certificate

C.U. 2.0 Diploma

Course Content: Introduction to types of fabrics; weaves; construction; cotton, linen, wool, silk and man-made synthetics.

TEXTILES, FABRICS, ETC. II (INTERMEDIATE)

DRES 152 **Fee: $30.00, 60 hours, Campus K (Spring)**

Friday 9:00 to 12 noon or Friday 1:00 to 4:00 p.m.

or Tuesday 12 noon to 3:00 p.m.

C.U. 1.5 Certificate

C.U. 2.0 Diploma

Prerequisite: DRES 142

Course Content: More in-depth coverage of DRES 142, including dyestuffs and prints.

FOOD TECHNOLOGY COURSES

BASIC PRACTICAL COOKERY

F 900 **Fee: $85.00, Campus K, 1:00 to 5:00 p.m.**

For further information telephone 967-1212, ext. 613

Course Content: This course is designed to introduce the basic principles of cooking as related to fine food, to take the raw products and create the basic requirements for classical dishes, sauteing, broiling and stewing, cooking lean and fat fish, seafoods, and the accompanying vegetables, salads, garnishes and dressings, employing the knowledge and expertise of chefs in the use of herbs, spices and wines.

ADVANCED PRACTICAL COOKERY

F 904 **Fee: $85.00, Campus K, 1:00 to 5:00 p.m.**

For further information telephone 967-1212, ext. 613

Prerequisite: Basic Practical Cookery.

This course will take the basic principles of cooking and apply them to the classical dishes of the countries in continental Europe, so that the student will be able to produce the French classics, the famed Italian pastas, the Spanish paellas, the Russian coulibiacs, the Scandinavian smorgasbords, the German sauer braten and beer soups, the shish kabobs of Turkey and Greece, the bouillabaisse of Marseilles, the Indian curries, Japanese suki yaki, the nasi goreng of Indonesia and a host of other famous dishes.

Balance of ADDENDA follows in coloured section at back of book.

PART TIME COURSES 1973-74

THE GEORGE BROWN COLLEGE OF APPLIED ARTS AND TECHNOLOGY

P.O. BOX 1015, STATION B

TORONTO, ONT. M5T 2T9

PHONE: (416) 967-1212 and ask for "Information"

This College was established and is funded by the Province of Ontario through the Ministry of Colleges and Universities.

GENERAL INFORMATION

PART-TIME CLASSES will be offered in the subjects listed on the following pages from October 1, 1973 to March 15, 1974. The first term begins on Monday, October 1, 1973 and ends December 14, 1973. The second term begins on Monday, January 14, 1974 and ends March 15, 1974 for most courses.

REGISTRATION

At The George Brown College of Applied Arts and Technology on Monday - September 17, Tuesday - September 18, Wednesday - September 19 and Thursday - September 20, 1973, between the hours of 4:00 p.m. and 9:00 p.m. at each of the campuses.

Campus C — 507 College Street
Tel: 967-1212 Ext. 305 or 306
Campus CL — 37 Dartnell Avenue
Tel: 967-1212 Ext. 404 or 405
Campus K — 21 Nassau Street
Tel: 967-1212 Ext. 607
Campus T — 51 Teraulay Street
Tel: 967-1212 Ext. 508 or 510 or 511

All course descriptions indicate the campus that will conduct the course. Special courses may be introduced if necessary.

Pre-registration may be arranged for certain courses; inquiries should be directed to "Information" at 967-1212.

FEES

The amount of the fee for each course is stated in the course description; each of these amounts includes a $5.00 non-refundable registration fee. In some cases, the cost of laboratory fees and materials may be additional to the stated amount of the fee.
The receipt issued at the time of payment of fees is the official receipt for income tax purposes; please retain it carefully, since a duplicate cannot be issued.

IDENTIFICATION

Your receipt is your admit-to-lecture identification and must be shown to the instructor at the beginning of the course and whenever requested. No receipt is an indication of non-registration.

REFUNDS

The admissions office must be notified in writing of a student's withdrawal; forms are available at the office for this purpose. Refunds will be made only if requested before the third scheduled session of the course. The $5.00 registration fee is not refundable; in addition, a charge will be made of $2.00 per scheduled session held prior to the date of application for the refund, regardless of whether or not the student attended classes. If a course is cancelled, full refund will be made. REQUESTS FOR REFUNDS MUST BE ACCOMPANIED BY THE OFFICIAL RECEIPT (white copy). In the case of a course failing to materialize because of insufficient enrolment, a full refund and notification will be forwarded to the applicant.

PART-TIME STUDIES DURING THE DAY

Individuals who may be free during day school hours are welcome to apply to participate in regular day subjects or courses. For further information call 967-1212 or direct inquiries to the day-school admissions office.

PREREQUISITES

Candidates should be advised that many of the following courses require considerable related experience. The prerequisites for any given course are the minimum requirements.

MINIMUM ENROLMENTS

The college reserves the right to cancel any class for which attendance has dropped below the required minimum and to suspend or combine during the session any classes in which attendance falls below the minimum. Although it is proposed to adhere to the program as outlined in the calendar, courses and hours of instruction are subject to revision without prior notice.

TEXTBOOKS AND SUPPLIES

Textbooks and supplies for all Part-time Courses may be purchased at the individual campus bookstores.

CERTIFICATION

Applicants should inquire at the time of registration concerning certification and accreditation. Courses with X appended to the course number indicate non-certificate or special interest courses.

SPECIAL COURSES

Special courses will be offered from time to time at the request of individuals or organizations if an adequate enrolment is assured.

COUNSELLING

As a community service The George Brown College offers general counselling and information on each campus; appointments are necessary after 4:00 p.m.

PART TIME CALENDAR COURSE OUTLINE BY TECHNOLOGY

Academic Studies
- Applied Computer Programming 9
- Biology 11
- Chemistry 10
- Community Development 5
- Current Issues 6
- Economics 5
- English 2
- Income Tax and the Layman 5
- Law 4
- Mathematics 6
- Mechanics 12
- Mechanics of Materials 13
- Medical Terminology 13
- Physics 11
- Psychology 5
- Science 10
- Statistics 9
- Theatre Arts 6

Advanced Technical Evening Class Program
- Civil 114
- Electrical 114
- Electronics 114
- Mechanical 114

Applied Arts
- Dental Technician 15

Architectural Technology
- Air Conditioning 20
- Appliances 24
- Blueprint Reading 26
- Building Construction 25
- Carpentry 17
- Drafting & Design 28
- Heating 22
- Masonry 18
- Plumbing 18
- Refrigeration 25
- Sheet Metal 19
- Stationary Engineering 30
- Steamfitting 20
- Surveying 29

Business and Commerce
- Accounting 32
- Advertising & Sales 33
- Business Machines 35
- Data Processing 37
- DPMA Certificates 44
- Investment 34
- Management 36
- Marketing 38
- Office Practice 38

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- Shorthand 39
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- Canadian Institute of Quantity Surveyors 1973/74 ix
- Association of Survey Technicians and Technologists ix
- Association of Architectural Technologists of Ontario ix

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- Audio Visual 14
- Film Workshop 14

Electrical/Electronic
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- Apprentice Review 48
- Computer Principles 51
- Drafting 48
- Electrical Construction 47
- Electrical Fundamentals 49
- Electronic Controls 49
- Electronic Fundamentals 50
- Estimating 48
- Regulations of Hydro-Electric Power Commission 48
- Television 51

Engineering Technology
- Blueprint Reading 62
- Chemistry 70
- Drafting 60
- Equipment Servicing 72
- General Interest 64
- Instrumentation 55
- Machine Shop 65
- Nondestructive Testing 72
- Plastics 67
- Prosthetics 73
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- Tool Design 63
- Ultrasonic Testing 70
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- Welding 57

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- Apparel Construction 76
- Apparel Design 77
- Apparel Technology 81
- Fabric Design 79
- Fashion Illustration 78
- Fur 80
- Industrial Power Sewing 79
- Jewellery Arts 81
- Men's Clothing 79

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- Accounting 88
- Bakery Engineering 92

Bakery Management 93
Baking 87
Bartending 88
Breadmaking 90
Cakemaking 90
Candies & Chocolates 91
Cereal Chemistry 92
Cookies & Biscuits 90
Cooking 87
Decorating 89
Haute Cuisine 85
Meat Services 89
Quality Control 92
Sanitation & Hygiene 91
Wine Making 88

Graphic Arts
Binding 101
Commercial Art 102
Die Cutting & Embossing 99
Film Imposition 98
Machine Printing 99
Mark-Up 97
Monotype & Photo Composition 95
Paste-up 97
Photomechanical Reproduction 97
Quality Control 101
Screen Process 102
Signwriting 102
Typography 95

Language Training
Chinese 104
English 104
French 104
Italian 105
Polish 104

Music
Music Enjoyment 106
Music & Speech 106

Professional Development
Effective Supervision 108
Teaching Techniques 107

Special Techniques
Crafts 112
Hairstyling 111
Security 112
Yoga 113

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Chemistry
— General — CHEM 100 10
— Polymer — CHEM 210 10

Construction Law — AS 908 5

Die
— Design 1 — ENDR 520 63
— Design 2 — ENDR 521 64

Diemaking — MACH 204 66

Drawing
— Technical I — ENDR 105 60
— Technical II — ENDR 214 61

Economics — EC 100 5

Electrical
— Drafting (Basic) — EL 903 48
— Fundamentals — EL 905 49

Electronic(s)
— Fundamentals (Transistors) — ELTC 904 51

English
— I — ENG 100 4
— II — ENG 200 4

General Chemistry — CHEM 100 10

Human Relations — PSY 200 5

Injection Mould Design — ENDR 507 64

Jig and Fixture
— Design 1 — ENDR 500 63
— Design 2 — ENDR 501 63

Law
— Construction — AS 908 5

Mathematics
— I — MATH 100 8
— II — MATH 200 8
— III — MATH 900 9
— IV — MATH 901 9
— Statistics I — MATH 903 9

Measuring Principles — INST 100 56

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— I — MECH 100 12
— II — MECH 200 12

— of Materials I — MECH 110 13
— of Materials II — MECH 210 13
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Physics I — PHYS 100 11
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Statistics — see Mathematics 9
Surveying — SURV 101 29
Technical Drawing — see Drawing 60

CREDIT COURSES FOR CANADIAN INSTITUTE OF QUANTITY SURVEYORS 1973-74

Upon satisfactory completion of any of the following courses (and subject to the footnotes) students may apply for exemption from the applicable CIQS examinations.

ACC	152	Bookkeeping	33
AS	908	Construction Law	5
CO	101	Quantity Surveying (Part I) and Building Construction Estimating	25
CO	901	Construction Methods and Materials (Building Construction)	26
CO	906	Mechanical and Electrical Systems in Buildings (Part I)	27
CO	907	Mechanical and Electrical Systems in Buildings (Part II)	27
EC	100	Economics	5
DR	900	Architectural Drafting, Part I (Drafting)	28
STR	122	Structural Steel Design and Detailing, Part I	28
STR	218	Reinforced Concrete Design	29

Footnotes:

Upon satisfactory completion of both "Structural Steel Design and Detailing, Part I" and "Reinforced Concrete Design" students may apply to the CIQS for exemption from their examinations in Theory of Structure. Surveying and Architectural Drafting now form part of Building Construction I, II and III in the CIQS examinations. Those students who wish to study CIQS examination subjects not listed should make enquiries at the time of enrolment. Suitable courses may be arranged provided the enrolment meets minimum requirements. Students are advised to consult CIQS for the new (1973) course outlines before enrolling in any extension courses.

CREDIT COURSES FOR ASSOCIATION OF SURVEY TECHNICIANS AND TECHNOLOGISTS

The following credit courses are offered by the George Brown College:

SURV	101	Plane Surveying 29
SURV	201	Advanced Plane Surveying 29
SURV	204	Legal Surveying 29

Courses are being co-ordinated through the office of the Association. All students interested in these courses should direct their enquiries to:

The Education Committee,
Association of Certified Survey
Technicians and Technologists,
Suite 903,
8 King Street East,
Toronto, Ontario.
Telephone: 364-6898

CREDIT COURSES FOR ASSOCIATION OF ARCHITECTURAL TECHNOLOGISTS OF ONTARIO

The following credit courses are offered by the George Brown College:

CO	101	Quantity Surveying (Part I) and Building Construction Estimating	25
CO	901	Construction Methods and Materials (Building Construction)	26

CO	909	Codes Regulations and Contracts	27
STR	122	Structural Steel Design and Detailing	28
STR	218	Reinforced Concrete Design	29
STR	900	Structural Design (Basic)	29
SURV	101	Plane Surveying	29
SURV	901	Architectural Design and Planning	30

For further information regarding courses as they pertain to certification, please direct enquiries to:

Association of Architectural
Technologists of Ontario,
Post Office Box 962,
Postal Station "F",
Toronto, Ontario.

Academic Studies Courses

ENGLISH

LANGUAGE AND COMMUNICATION

ENG 146A	College Preparatory
ENG 146B	College Preparatory
ENG 147	College Preparatory
ENG 149	Business English (Refresher)
ENG 130	English (Technical)
ENG 131	Advanced Level For Non-English-Speaking Persons
ENG 100	English I — A.T.E.C. Program (Approved)
ENG 200	English II—A.T.E.C. Program (Approved)
ENG 203	Canadian Literature
ENG 900	Rapid Reading

LAW

AS 907	Business Law
AS 908	Construction Law — A.T.E.C. Program (Approved)
AS 909	Community Development

ECONOMICS

EC 100	Economics (Basic) — A.T.E.C. Program (Approved)
EC 900X	Income Tax and the Layman (January to March)

PSYCHOLOGY

PSY 200	Psychology — Introductory — A.T.E.C. Program (Approved)
PSY 300	Social Psychology

ELECTIVE STUDIES

ES 146	Current Issues — Canadian Studies

THEATRE

THEA 900	Acting for Beginners
THEA 901	Development of Characterization
THEA 903	Intermediate Modern Dance
THEA 904	Beginning Modern Dance

MATHEMATICS

MATH 146A	College Preparatory
MATH 146B	College Preparatory
MATH 147A	College Preparatory
MATH 147B	College Preparatory
MATH 157	Business Mathematics (Introductory)
MATH 10/20	Trade Mathematics I
MATH 20/30	Trade Mathematics II
MATH 130	Technical Mathematics
MATH 100	Mathematics I —A.T.E.C. Program (Approved)
MATH 200	Mathematics II—A.T.E.C. Program (Approved)
MATH 900	Mathematics III — A.T.E.C. Program (Approved)
MATH 901	Mathematics IV — A.T.E.C. Program (Approved)
MATH 903	Statistics I — A.T.E.C. Program (Approved)
MATH 120	Applied Computer Programming

CHEMISTRY

CHEM 100	Chemistry (General) — A.T.E.C. Program (Approved)
CHEM 210	Chemistry (Polymer) — A.T.E.C. Program (Approved)

SCIENCE

SC 146A	College Preparatory
SC 146B	College Preparatory
SC 147A	College Preparatory
SC 147B	College Preparatory
SC 147C	College Preparatory

PHYSICS

PHYS 133	Applied Physics (Technical)
PHYS 100	Physics I — A.T.E.C. Program (Approved)
PHYS 147	General Science — College Preparatory
PHYS 200	Modern Physics — A.T.E.C. Program (Approved)

MECHANICS

MECH 100	Mechanics I — A.T.E.C. Program (Approved)
MECH 200	Mechanics II—A.T.E.C. Program (Approved)
MECH 110	Mechanics of Materials I — A.T.E.C. Program (Approved)
MECH 210	Mechanics of Materials II—A.T.E.C. Program (Approved)

ANATOMY

ANAT 100	Medical Terminology — Part I
ANAT 101	Medical Terminology — Part II

ACADEMIC STUDIES

Courses noted as "A.T.E.C. Program (Approved)" are accredited by the Department of Colleges and Universities as Advanced Technical Evening Class Programs and meet the requirements for certification in the Ontario Association of Certified Engineering Technicians and Technologists. (O.A.C.E.T.T.)

LANGUAGE AND COMMUNICATION

ENGLISH—College Preparatory

ENG 146A **Fee: $30.00, 60 hours, Campus C**

Tuesday, 7:00 to 10:00 p.m.

This course is designed for persons who wish to upgrade their language and communication skills for entry into courses at Colleges of Applied Arts and Technology. The course will include development of reading skills, oral communication skills, grammar, punctuation, spelling and vocabulary, paragraph writing, emphasizing unity, coherence and topic sentence. Short selections from Canadian literature.
Prerequisite: Grade 8 or equivalent.

ENGLISH—College Preparatory

ENG 146B **Fee: $30.00, 60 hours, Campus C**

Thursday, 7:00 to 10:00 p.m.

This course is designed for persons who wish to upgrade their language and communication skills for entry into courses at Colleges of Applied Arts and Technology. The course will include development of reading skills, oral communication skills, vocabulary and spelling, review of grammar and punctuation, sentence variety, paragraph writing: descriptive, expository and narrative; business letters, report writing, precis writing. Short selections from Canadian literature.
Prerequisite: English 146A or Grade 9.

ENGLISH — College Preparatory

ENG 147 **Fee: $30.00, 60 hours, Campus T**

Tuesday and Thursday, 7:00 to 10:00 p.m.

This course is designed for persons who wish to upgrade their language and communication skills for entry into courses at Colleges of Applied Arts and Technology, for persons who wish to attend courses elsewhere, or for persons who wish to enter employment for which grade 12 standing is required.
Persons successfully completing English 147 may apply to the Ministry of Education for credit towards a grade 12 certificate.
Prerequisite: Grade 10 or equivalent; English 146B.

BUSINESS ENGLISH (Refresher)

ENG 149 **Fee: $30.00, 60 hours, Campus T**

Thursday, 7:00 to 10:00 p.m.

This course is designed for students who would like a refresher in business communications as well as for students who have no formal training in the writing of business communications. This course will include the following: a brief review of grammar; a detailed study of punctuation and business vocabulary; letters of application, acknowledgement, remittance, inquiry, request, cancellation, confirmation, and refusal; claim, adjustment, sales, social, and form letters; report writing; oral communication including interviews, telephone technique, prepared talks, discussions, and debates; developmental reading.
Prerequisite: Grade 10 or equivalent.

ENGLISH (Technical)

ENG 130 **Fee: $30.00, 60 hours, Campus CL**

Tuesday, 7:00 to 10:00 p.m.

This course is related to trades and technologies at the level needed by students proceeding to journeyman status.
The following reading skills will be developed: reading for comprehension, reading for details, reading for main ideas, summarizing information, making notes, and reading as studying.
Remedial and developmental work in oral and written expression will place special emphasis upon trade topics and technical communication.

ADVANCED LEVEL FOR NON-ENGLISH-SPEAKING PERSONS

ENG 131 **Fee: $30.00, 60 hours, Campus T and C**

Tuesday (T) and Thursday (C) 7:00 to 10:00 p.m.

This course is designed for persons whose native language is not English, but who possess an ability in English equivalent to that normally reached upon completion of the basic course in English-as-a-second-language. Each student will be tested to determine areas of need and an individual program in language skills will be prepared. Emphasis will be placed upon vocabulary building, correct usage of expressions, idioms, sentence building, reading skill, composition, pronunciation, inflection, accent and conversation.

ENGLISH I — A.T.E.C. Program (Approved)

ENG 100 **Fee: $30.00, 60 hours, Campus CL**

Wednesday, 7:00 to 10:00 p.m.

The objective of this course is to develop the student's skill in the use of simple, clear, correct English. Emphasis is on effective oral and written communication, with special focus on reading/learning techniques, technical writing, and the oral communication of ideas, information and instructions.
Prerequisite: Grade 12 English, English 130 or equivalent.

ENGLISH II — A.T.E.C. Program (Approved)

ENG 200 **Fee: $30.00, 60 hours, Campus CL**

Thursday, 7:00 to 10:00 p.m.

This course will emphasize the student's skill in using English with greater facility, effectiveness and precision, through preparing and giving oral presentations, lectures and reports on technical subjects. Emphasis will be on the use of library resources for technical research, the preparation of written technical reports, the development of analytical techniques, and the organization of data.
Prerequisite: Eng. 100 or equivalent.

CANADIAN LITERATURE

ENG 203 **Fee: $30.00, 60 hours, Campus T**

Tuesday, 5:30 to 7:30 p.m.

This course is designed to give the students an understanding of the environmental and historical factors which have affected Canadian literature; to show them the distinctive characteristics of Canadian literature; and to develop an appreciation of Canadian literature. The selections studied will be by a wide variety of authors, including Callaghan, Richler, Layton, Garner, and Davies.

RAPID READING

ENG 900 **Fee: $30.00, 40 hours, Campus CL**

Tuesday, 7:00 to 9:30 p.m.

This course is designed to help the student improve his reading speed and level of comprehension and is conducted in an up-to-date reading laboratory. The student's current reading level is determined and an individual program is devised to correct reading problems; following this, emphasis is placed upon improving the student's reading speed. This popular course also teaches the student modern methods of information processing.

BUSINESS LAW

AS 907 **Fee: $30.00, 60 hours, Campus CL**

Monday, 7:00 to 10:00 p.m.

This course is designed to provide an understanding of Common Law as it applies to private citizens and to persons engaged in small business enterprises. It includes definitions and explanations of such legal terms and situations as contracts, employment, agency, the sale of goods, insurance, real estate, partnership, bankruptcy, negotiable instruments, business crime, torts, etc.

CONSTRUCTION LAW — A.T.E.C. Program (Approved)

AS 908 **Fee: $30.00, 60 hours, Campus CL**

Monday, 7:00 to 10:00 p.m.

This course is designed to provide an understanding of Civil Law as it applies to the construction industry. Course content includes construction laws and by-laws, contracts, engineering agreements, labour relations and trades disputes, Workmen's Compensation, patents and inventions, trade marks, industrial design and copyrights, company law, boundaries and surveys, easements, factory and shop acts, mortgages, mechanics' liens, etc.

COMMUNITY DEVELOPMENT

AS 909 **Fee: $30.00, 60 hours, Campus T**

Monday, 7:00 to 10:00 p.m.

This course is designed to aid the professional development of those engaged or interested in community work. It includes the analytic study of urban communities, their organization and political structure; analysis and study of current social problems and methods and strategies for their solution; study of human relations and the dynamics of change; contemporary issues in urban living and their social, economic and psychological impact.

ECONOMICS (Basic) — A.T.E.C. Program (Approved)

EC 100 **Fee: $30.00, 60 hours, Campus CL**

Tuesday, 7:00 to 10:00 p.m.

This course is designed to provide an understanding of the economic factors that influence the personal and business affairs of Canadians. The course includes study of the basic economic structure of our society, supply and demand, business organization, money and banking, international trade, business cycles, public finance and taxation, consumer credit and borrowing, personal finances, social services, etc.

INCOME TAX AND THE LAYMAN

(Offered January to March)

EC 900X **Fee: $20.00, 30 hours, Campus CL**

Thursday, 7:00 to 10:00 p.m.

This course is designed to assist the average taxpayer to understand the new income tax legislation, how to make returns, how to benefit legally and what to do about capital gains, registered retirement plans, income averaging, the new exemptions, and Ontario succession duties.

PSYCHOLOGY — INTRODUCTORY — A. T. E. C. Program (Approved)

PSY 200 **Fee: $30.00, 60 hours, Campus T**

Wednesday, 7:00 to 10:00 p.m.

This course will examine the basic concepts and theories of psychology, covering such topics as learning, motivation, individual differences, etc. These concepts will then be applied to practical issues in business and personal life, helping the student to understand himself and others.

SOCIAL PSYCHOLOGY

PSY 300 **Fee: $30.00, 60 hours, Campus T**
Tuesday, 7:00 to 10:00 p.m.

This course, offered to students who have completed an introductory course in psychology, will examine the basic principles of social psychology, such as group dynamics, group behavior, organizations, etc. These principles will be applied to issues in modern society and industry.

CURRENT ISSUES — Canadian Studies (Elective Studies)

ES 146 **Fee: $30.00, 60 hours, Campus CL**
Monday and Wednesday, 7:00 to 10:00 p.m.

This course will appeal to those who are concerned about the social, political and economic issues being faced by Canadians in this era of rapid change. The issues to be studied in depth will be selected by the group. Sessions will be of the seminar type with emphasis on individual participation. Sessions commence September and January.

THEATRE ARTS

Acting for Beginners

THEA 900 **Fee: $30.00, 60 hours, Campus T**
Monday and Wednesday, 7:00 to 10:00 p.m.

Development of Characterization

THEA 901 **Fee: $30.00, 60 hours, Campus T**
Tuesday, 7:00 to 10:00 p.m.

Intermediate Modern Dance

THEA 903 **Fee: $30.00, 60 hours, Campus T**
Tuesday and Thursday, 5:30 to 7:30 p.m.

Beginning Modern Dance

THEA 904 **Fee: $30.00, 60 hours, Campus T**
Tuesday and Thursday, 7:30 to 9:30 p.m.

MATHEMATICS — College Preparatory

MATH 146A **Fee: $30.00, 60 hours, Campus C**
Tuesday, 7:00 to 10:00 p.m.

This course is designed for persons who wish to upgrade their mathematics for entry into courses at Colleges of Applied Arts and Technology, for persons who wish to enter courses elsewhere, or for persons who wish to enter employment for which grade 9 standing is required.
Course Content: Fractions, decimals, percentage, powers, square root, the metric system, simple areas, perimeters, volumes, and basic algebraic operations.
Prerequisite: Grade 8 or equivalent.

MATHEMATICS — College Preparatory

MATH 146B **Fee: $30.00, 60 hours, Campus C**
Thursday, 7:00 to 10:00 p.m.

This course is designed for persons who wish to upgrade their mathematics for entry into courses at Colleges of Applied Arts and Technology, for persons who wish to enter courses elsewhere, or for persons who wish to enter employment for which grade 10 standing is required.
Course Content: Triangle and circle, theorem of Pythagoras, volumes, weight and capacity, metric conversions, multiplication and division of monomials and binomials, linear equations and graphical solutions, trigonometric ratios, and mensuration.
Prerequisite: Math 146A or grade 9.

MATHEMATICS — College Preparatory

MATH 147A **Fee: $30.00, 60 hours, Campus T**
Monday, 7:00 to 10:00 p.m.

The first two sessions consist of a review of grade 9 and grade 10 algebra; thereafter, the topics of algebra, geometry, trigonometry, and the slide rule are covered to complete the regular grade 11 Ontario course. Successful completion not only makes the student eligible for the Math 147B course, but is recognized by the Ontario Ministry of Education for grade 11 credit.
Prerequisite: Math 146B or grade 10.

MATHEMATICS — College Preparatory

MATH 147B **Fee: $30.00, 60 hours, Campus T**
Thursday, 7:00 to 10:00 p.m.

The first session reviews the grade 11 algebra; the remainder completes the algebra, geometry, and trigonometry for grade 12 credit required by the Ontario Ministry of Education. This credit is accepted for entrance to all post-secondary courses in the George Brown College.
Prerequisite: Math 147A or grade 11.

BUSINESS MATHEMATICS (Introductory)

MATH 157 **Fee: $30.00, 60 hours, Campus T**
Wednesday, 7:00 to 10:00 p.m.

This course is designed for people active in business and commerce who would like to improve their skill in arithmetic used in ordinary business activities. It should be of interest to persons employed in retail and wholesale sales and in small businesses.
Course Content: Practice in adding, subtracting, multiplying, and dividing, extended to fractions, decimals and percentages; application of these operations to business problems; use of simple calculating machines to solve problems in costs, discounts, interest rates, and payrolls.

TRADE MATHEMATICS I

MATH 10/20 **Fee: $30.00, 60 hours, Campus CL**
Fall term: Tuesday, 7:00 to 10:00 p.m.
Winter term: Tuesday, 7:00 to 10:00 p.m.
Spring term: Monday and Thursday, 7:00 to 10:00 p.m.

This course is designed for tradesmen, apprentices and persons desiring a foundation in trade mathematics. Basic and intermediate levels for most trades are covered in the course.
Course Content: Whole numbers, fractions, decimals and percentages applied to trade problems; square root calculations and the Pythagorean theorem; calculations involving circles, triangles, compound areas and volumes; manipulation of trade formulae.

TRADE MATHEMATICS II

MATH 20/30 **Fee: $30.00, 60 hours, Campus CL**

Fall term: Tuesday, 7:00 to 10:00 p.m.
Winter term: Tuesday, 7:00 to 10:00 p.m.
Spring term: Monday and Thursday, 7:00 to 10:00 p.m.

This course is designed for tradesmen, apprentices and persons desiring advanced study in trade mathematics. The intermediate and advanced level for most trades is covered in this course.

Course Content: Manipulation of more complex trade formulae; mensuration; graphs, charts and trade estimating; ratio, proportion and variation; the slide rule.

TECHNICAL MATHEMATICS

MATH 130 **Fee: $30.00, 60 hours, Campus CL**

Fall term: Tuesday, 7:00 to 10:00 p.m.
Winter term: Tuesday, 7:00 to 10:00 p.m.
Spring term: Monday and Thursday, 7:00 to 10:00 p.m.

This is a course in technical mathematics designed to prepare the student for future studies at the post-secondary level in technical mathematics. The course is also suitable for electrical apprentices who require credit at the intermediate and advanced levels.

Course Content: Algebraic operations, factoring, linear and quadratic equations; trigonometry, solution of right angle and oblique triangles, logarithms and vectors.

MATHEMATICS I — A.T.E.C. Program (Approved)

Offered during fall, winter and spring terms

MATH 100 **Fee: $30.00, 60 hours, Campus CL**

Thursday, 7:00 to 10:00 p.m.

Course Content: Computations with measured quantities; exact and approximate numbers, scientific notation, analysis of error, slide rule and tables.
Algebra: Linear functions, systems of linear functions, determinants, quadratic functions.

Logarithms: Logarithmic and exponential functions, applications.
Trigonometry: Trigonometric functions, application to mechanical and electrical problems.

Analytical trigonometry: Complex numbers, vector algebra.

Prerequisite: Grade 12 mathematics; Math 132 or equivalent.

MATHEMATICS II — A.T.E.C. Program (Approved)

Offered during fall, winter and spring terms

MATH 200 **Fee: $30.00, 60 hours, Campus CL**

Tuesday, 7:00 to 10:00 p.m.

Course Content: Algebraic notations, binomial theorem; trigonometry; analytic geometry, the straight line, loci, conics, second degree equations; differential calculus: limits, derivatives of product, quotient and power functions, rate of change, maxima and minima; integration: indefinite and definite integrals, areas under the curve, volumes of revolution.

Prerequisite: Math 100 or equivalent.

MATHEMATICS III — A.T.E.C. Program (Approved)

Offered during fall, winter and spring terms

MATH 900 **Fee: $30.00, 60 hours, Campus CL**

Monday, 7:00 to 10:00 p.m.

Course Content: Differential calculus: functional notation, gradients, limiting value, differentiation from first principles, maxima and minima, differentiation of products and quotients of trigonometric functions with application to angular velocity and acceleration, simple harmonic motion, and electrical problems; integral calculus: relationship between differentiation and integration, the definite integral, areas and volumes by integration, integration of trigonometric functions, centre of gravity and centroids with applications, application of calculus to problems encountered in related technology.
Prerequisite: Math 200 or equivalent.

MATHEMATICS IV — A.T.E.C. Program (Approved)

Offered during fall, winter and spring terms

MATH 901 **Fee: $30.00, 60 hours, Campus CL**

Monday, 7:00 to 10:00 p.m.

Course Content: Differentiation of exponential and logarithmic functions with applications related to engineering problems; moments of inertia, radius of gyration, second moment of area; the rod, rectangle, disc and cylinder; parallel axis theory; perpendicular axis theory; review of centre of gravity and centroids; theorems of Pappus; standard methods of integration, such as substitution, trigonometric identities, partial fractions and integration by parts; radius of curvature, lengths of curves; expansion series; Taylor's and MacLaurin's Theorem; differential equations; simple differentiation equations of the first and second order; complex numbers (included as required for students specializing in electrical or electronic technology).
Prerequisite: Math 900 or equivalent

STATISTICS I — A.T.E.C. Program (Approved)

Offered during fall, winter and spring terms

MATH 903 **Fee: $30.00, 60 hours, Campus CL**

Tuesday, 7:00 to 10:00 p.m.

Course Content: Introduction to statistics: data collection and presentation; probability concepts; frequency distributions and measures of central tendency; standard deviation; curve fitting; sampling; average and range control charts; quality control concepts.

Prerequisite: Math 900 or equivalent

APPLIED COMPUTER PROGRAMMING

MATH 120 **Fee: $40.00, 60 hours, Campus CL**

Monday and Wednesday, 7:00 to 10:00 p.m.

This course is designed to train persons in programming and the use of computers for computational problem-solving in technician and technologist applications.

Course Content: Use of terminals, punched and tape-stored programs, computer language, FORTRAN, computer hardware and software, flow charting, time sharing, typing and keyboard manipulation using lumisonic techniques.
Prerequisite: Math 100 or equivalent.

CHEMISTRY (General) — A.T.E.C. Program (Approved)

CHEM 100 **Fee: $30.00, 60 hours, Campus CL**

Monday, 7:00 to 10:00 p.m.

Course Content: Methods of chemistry: physical and chemical changes, chemical terminology. Organic chemistry: structure and reactions of common aliphatic groups. States of matter: gas laws, partial pressure. Nuclear chemistry: basic nuclear particles, isotopes, radioactivity, half life, radioisotopes and uses. Equilibrium: rate of reaction, reversibility, LeChatelier's Principle, equilibrium constant, solubility as an equilibrium process, methods of expressing solubility and concentration, ion exchange. Acidimetry and hydrolysis: definitions pH, indicators, titrations, relation to oxidation and reduction. Electro-chemistry: electrolysis, Faraday's Law, electro-chemical series, corrosion.

CHEMISTRY (Polymer) — A.T.E.C. Program (Approved)

CHEM 210 **Fee: $45.00, 90 hours, Campus CL**

Thursday, 7:00 to 10:00 p.m.

Course Content: The chemistry and physics of natural and synthetic polymers covering the following topics: molecular forces and chemical bonding, molecular weight and its distribution, configurations and conformations of polymer chains, morphology, condensation and addition polymers, copolymers, methods for determining molecular weight of polymers, structure of polymers, copolymers, structure of polymer molecules, how structure determines properties of polymers, testing and degradation of polymers, theory of polymers. Emphasis will be placed on common plastic materials. Practical work in the laboratory.
Prerequisite: Chem 100

SCIENCE — College Preparatory

SC 146A **Fee: $30.00, 60 hours, Campus C**

Tuesday, 7:00 to 10:00 p.m.

This course is designed for persons who wish an introduction to science and who wish to enter employment for which standing in grade 9 science is required. The course will introduce and develop concepts from measurement, chemistry, biology, sound and light.

SCIENCE — College Preparatory

SC 146B **Fee: $30.00, 60 hours, Campus C**

Thursday, 7:00 to 10:00 p.m.

This course is designed for persons who wish to upgrade their science and who wish to enter employment for which standing in grade 10 science is required. The course will introduce and develop concepts from mechanics, magnetism, electricity and heat.
Prerequisite: Science 146A or grade 9.

PHYSICS — College Preparatory

SC 147A **Fee: $20.00, 30 hours, Campus T**

Tuesday, 7:00 to 9:00 p.m.

The purpose is to teach introductory college physics to those interested in the field and/or requiring a course credit in physics at the grade 11 or grade 12 level.

Course Content: Introductory college physics (introduction to mechanics, heat, light, sound) with some laboratory work.
Prerequisite: Grade 10 or equivalent.

BIOLOGY — College Preparatory

SC 147B **Fee: $20.00, 30 hours, Campus T**

Monday, 7:00 to 9:00 p.m.

The purpose is to teach human anatomy and physiology to those interested in the field and/or requiring a course credit in biology at the grade 11 or grade 12 level.
Course Content: Structure and function of the various body systems with some laboratory work.
Prerequisite: Grade 10 or equivalent.

CHEMISTRY — College Preparatory

SC 147C **Fee: $20.00, 30 hours, Campus T**

Thursday 7:00 to 9:00 p.m.

The purpose is to teach introductory college chemistry to those interested in the field and/or requiring a course credit in chemistry at the grade 11 or grade 12 level.
Course Content: Introductory college chemistry with some laboratory work.
Prerequisite: Grade 10 or equivalent.

APPLIED PHYSICS (Technical)

PHYS 133 **Fee: $30.00, 60 hours, Campus CL**

Monday, 7:00 to 10:00 p.m.

Air: Physical and chemical properties, pressure and vacuum, measurement of pressure, the barometer, the manometer, absolute pressure, gauge pressure.
Water: Physical and chemical properties, density and specific gravity, calculation of pressure at a depth, capillarity, pH factor.
Heat: Temperature scale, heat transmission, radiation, convection, conduction, the B.T.U. latent heat, coefficient of expansion, mechanical equivalent of heat, heat loss and prevention.
Gas laws: Expansion and compression of gases, Boyle's Law, vacuum pump, the compression pump.
Hydraulics: Fluids under pressure, action of pressure pumps, action of the venturi, the water hammer.
Properties of materials: Basic metallurgy, ferrous and non-ferrous metals, heat treatment.
Machines: Principles, efficiency, levers, inclined plane, gear drives, belt and chain drives.
Work energy and power: Units of energy and power, horsepower.
Strength of materials: Stress and strain, safety factor, Young's Modulus.
Prerequisite: Grade 10 or equivalent.

PHYSICS I — A.T.E.C. Program (Approved)

PHYS 100 **Fee: $30.00, 60 hours, Campus CL**

Wednesday, 7:00 to 10:00 p.m.

Properties of matter; mechanics: force, motion, speed, velocity, acceleration, projectiles, momentum, simple machines, work, friction, elasticity; heat: tem-

perature measurements, heat transfer, expansion, heat units, latent and super heat; sound waves; light: intensity, inverse square law, speed of light; rap optics, wave optics, including lenses, interference, diffraction and polarization.

Prerequisite: Math 100 or equivalent.

GENERAL SCIENCE — College Preparatory

PHYS 147 **Fee: $30.00, 60 hours, Campus T**

Tuesday, 7:00 to 10:00 p.m.

Choice of modules on heat, vibratory motion, electricity, electronics, light, computer science, and mechanics.

Prerequisite: SC 146B or high school (Grade 10) equivalent.

MODERN PHYSICS — A.T.E.C. Program (Approved)

PHYS 200 **Fee: $30.00, 60 hours, Campus T**

Wednesday, 7:00 to 10:00 p.m.

Course Content: Electro-magnetism: electrostatics, electromagnetic waves and spectrum; atomic physics: periodic table (physical point of view), emission and absorption of radiant energy, early structure of an atom, quantum theory, waves of particles, Bohr atom and line spectra, modern atomic model and Schroedinger wave equation; physics of the solid state: crystalline solids, experimental methods of determining crystal structure, classification by structure, classification by binding energy displayed, electronic structure of solids; structure and behaviour of metals: structure and behaviour of semi-conductors, semi-conductor devices, nuclear physics.

Prerequisite: Math 900 and Phys 100.

MECHANICS I — A.T.E.C. Program (Approved)

MECH 100 **Fee: $30.00, 60 hours, Campus CL**

Monday, 7:00 to 10:00 p.m.

Statics: basic principles of statics; coplanar, parallel and concurrent force systems; friction; centroids and centres of gravity; second moments of areas. Dynamics: basic principles, rectilinear motion, work, energy and power, impulse, momentum, impact.

Prerequisite: Math 100 or equivalent (prior to or concurrent with Mechanics I).

MECHANICS II — A.T.E.C. Program (Approved)

MECH 200 **Fee: $30.00, 60 hours, Campus CL**

Thursday, 7:00 to 10:00 p.m.

Statics: review of force systems—coplanar, non-coplanar, parallel, non-coplanar concurrent, non-coplanar non-concurrent; friction; dynamics: relative velocity; torque, angular motion and energy; motion in a circular path; simple harmonic motion; pressure of liquids; flow of water; deriving equations of motion and fluids by using calculus notation.

Prerequisite: Mech 100 and Math 900.

MECHANICS OF MATERIALS I — A.T.E.C. Program (Approved)

MECH 110 **Fee: $30.00, 60 hours, Campus CL**

Monday, 7:00 to 10:00 p.m.

Mechanical properties and testing; unit stress and strain; beam type members —statically determinate; beam type member design; deflection due to bending; thin cylinders and joints; resilience; torsion, combined stresses.

Prerequisite: Math 200 and Mech 100.

MECHANICS OF MATERIALS II — A.T.E.C. Program (Approved)

MECH 210 **Fee: $30.00, 60 hours, Campus CL**

Tuesday, 7:00 to 10:00 p.m.

Fatigue and stress concentration, statically determinate members, statically indeterminate members, properties of materials, columns, combined stresses, thick walled and compound cylinders.

Prerequisite: Mech 110 and Math 900

MEDICAL TERMINOLOGY PART I

ANAT 100 **Fee: $20.00, 30 hours, Campus T**

Tuesday, 7:00 to 9:00 p.m.

The purpose is to teach the pronunciation, spelling, and meaning of anatomical terms to those interested in the field of medical dictatyping or medical stenography.

Prerequisite: None.

Course Content: Emphasis will be placed on terminology related to normal structure and function of the various body systems. There will be some laboratory work.

MEDICAL TERMINOLOGY PART II

ANAT 101 **Fee: $20.00, 30 hours, Campus T**

Wednesday, 7:00 to 9:00 p.m.

The purpose is to teach the pronunciation, spelling, and meaning of medical terms to those interested in the field of medical dictatyping or medical stenography.

Prerequisite: Anat 100.

Course Content: Emphasis will be placed on terminology related to the abnormal (diseases, disorders). Reference will be made to nomenclature and therapeutic action of common drugs.

Educational Media Courses

AV 902 Audio Visual Workshop
AV 904 Audio Visual Photography
AV 905 Creative Film Workshop
AV 906 Advanced Film Workshop
AV 907 Audio General
AV 908 Audio Production Workshop

EDUCATIONAL MEDIA TECHNOLOGY

AUDIO VISUAL WORKSHOP

AV902 **Fee: $60.00, 60 hours, Campus K**

Thursday, 7:00 to 10:00 p.m.

An intensive course for the acquisition of skills in the preparation of A/V materials. This course is suitable for the novice as well as A/V technicians who are already working in this field and who wish to acquaint themselves with the latest techniques. (90% practical work)

AUDIO VISUAL PHOTOGRAPHY

AV904 **Fee: $60.00, 60 hours, Campus K**

Monday, 7:00 to 10:00 p.m.

Designed to provide the beginner with a knowledge of the how and the why of photography and the advanced with a better understanding of the elementary principles of the photographic processes. A comprehensive approach to photographic optics and exposure, emulsions, filters and lighting, film and print processing and camera techniques.

CREATIVE FILM WORKSHOP

AV905 **Fee: $60.00, 60 hours, Campus T**

Tuesday, 7:00 to 10:00 p.m.

An overview of 16mm and 8mm film production. Designed to give the student insight and practice in lighting, shooting, sound mix, animation and editing. Guest lecturers and demonstrations by experts from the film industry.

ADVANCED FILM WORKSHOP

AV 906 **Fee: $60.00, 60 hours, Campus T**

Monday, 7:00 to 10:00 p.m.

Prerequisites: AV 905 or equivalent experience.

A comprehensive course of motion picture production techniques in 16mm format. Production planning, studio and camera work, editing and mixing, combined with classroom lectures and tours, will give the cinematographer a good understanding of this media. (Enrolment limited).

AUDIO GENERAL

AV 907 **Fee: $60.00, 60 hours, Campus T**

Wednesday, 7:00 to 10:00 p.m.

A basic course in professional audio techniques used in industry, based on the hands-on concept of self instruction through use and experience.

AUDIO PRODUCTION WORKSHOP

AV 908 **Fee: $60.00, 30 hours, Campus T**

Thursday, 7:00 to 10:00 p.m.

An advanced course in audio production techniques used in industry.
Prerequisite: AV907 or suitable experience in the industry. 90% practical.

APPLIED ARTS COURSES

DENTAL TECHNICIAN

Fee: $45.00, 90 hours, Campus CL

Day—to be announced—7:00 to 10:00 p.m.

Inquiries should be made at the admissions office, 37 Dartnell Avenue.
Phone: 967-1212, Ext. 404 or 405.

DENT 900	Complete Denture Prosthesis
DENT 901	Partial Denture Construction
DENT 902	Orthodontics
DENT 903	Crown and Bridge Work
DENT 904	Ceramics and Ceramics to Metal
***DENT 905**	Applied Science (Dental Materials)
***EC 902**	Business Management

These courses are offered to technicians who are working at present in a dental laboratory or for a dentist. They cover the work as it is presented in our Dental 100 day course. Theory and practical work in these courses are offered for 3-hour sessions each evening.

*Courses opposite which an asterisk appears are compulsory for students who are working toward the George Brown part-time certificate.

Every attempt will be made to provide each student with the instruction and experience he most needs on an individual basis.

Specified nights are subject to change, depending on the availability of instructors for the various courses.

Architectural Technology Courses

CARPENTRY

CAR 900	Cabinet-Making
CAR 901	Carpentry I
CAR 902	Carpentry II

MASONRY

MAS 900	Bricklaying

PLUMBING

PLUM 900	Plumbing Basic
PLUM 901	Plumbing Intermediate
PLUM 902	Plumbing Qualification
PLUM 903	Plumbing Design Engineering I
PLUM 904	Plumbing Design and Installation
PLUM 905	Swimming Pool Operators

SHEET METAL

SM 900	Sheet Metal Pattern Drafting Part I
SM 901	Sheet Metal Pattern Drafting Part II
SM 904	Sheet Metal Patern Drafting Part III
SM 907	Sheet Metal Theory
SM 903	Sheet Metal Design and Installation

STEAMFITTING

STEA 902	Steamfitting Qualification
STEA 903	Steamfitting Pneumatic Controls Part I

AIR CONDITIONING

AIR 900	Air Conditioning Design I
AIR 901	Air Conditioning Design II
AIR 902	Air Conditioning Control
AIR 904	Air Conditioning Design III
AIR 905	Air Conditioning Residential and Small Commercial

HEATING

HT 900	Warm Air Heating and Air Conditioning (Domestic)
HT 130	Oil Burner III
HT 131	Oil Burner II
HT 901	Oil Burner I (Commecial and Industrial)
HT 140	Gas Fitter II
HT 902	Gas Fitter I

APPLIANCES

AP 900	Gas Appliances
AP 902	Propane Gas
AP 903	Appliance Servicing Part I
AP 904	Appliance Servicing Part II (Domestic Refrigeration)
AP 905	Appliance Servicing Part III (Laundry Equipment)

REFRIGERATION

REF 900	Refrigeration Part I (Basic)
REF 901	Refrigeration Part II (Intermediate)
REF 902	Refrigeration Part III

BUILDING CONSTRUCTION

CO 101	Quantity Surveying Part I and Building Construction Estimating
CO 105	Principles of Concrete
CO 901	Construction Methods and Materials (Building Construction)
CO 904	Contract Planning and Control for Construction
CO 905	Blueprint Reading for Mechanical/Electrical Construction Trades
CO 906	Mechanical and Electrical Systems in Building Part I (Plumbing, Fire Protection and Heating)
CO 907	Mechanical and Electrical Systems in Building Part II (Air Conditioning and Electrical)
CO 908	Construction Labour Relations in Canada
CO 909	Codes, Regulations and Contracts

BLUEPRINT READING AND DRAFTING

DR 10/20/131	Blueprint Reading for the Construction Trades
DR 900	Architectural Drafting Part I
DR 901	Architectural Drafting Part II

DESIGN

STR 122	Structural Steel Design and Detailing
STR 218	Reinforced Concrete Design
STR 900	Structural Design (Basic)

SURVEYING

SURV 101	Plane Surveying — A.T.E.C. Program (Approved)
SURV 201	Advanced Plane Surveying
SURV 204	Legal Surveying
SURV 901	Architectural Design and Planning

STATIONARY ENGINEERING

STAT 900	Stationary Engineering — 4th Class
STAT 901	Stationary Engineering — 4th Class
STAT 902	Stationary Engineering — 4th Class
STAT 903	Stationary Engineering — 4th Class
STAT 904	Stationary Engineering — 3rd Class
STAT 905	Stationary Engineering — 2nd Class
STAT 906	Stationary Engineering — 1st Class

ARCHITECTURAL TECHNOLOGY

CABINET-MAKING

CAR 900 — **Fee: $30.00, 60 hours, Campus CL**
Tuesday, 7:00 to 10:00 p.m.

Prerequisite: Familiarity with the fundamentals of cabinet-making and woodworking machinery.
Course Content: Conditioning and use of hand tools and machines; joints and methods used in cabinet-making; layout and design.

CARPENTRY I

CAR 901 — **Fee: $30.00, 60 hours, Campus CL**
Thursday, 7:00 to 10:00 p.m.

Prerequisite: Proof of work experience in the construction industry.
Course Content: House framing and roofing, National Building Code.

CARPENTRY II

CAR 902 — **Fee: $30.00, 60 hours, Campus CL**
Wednesday, 7:00 to 10:00 p.m.

Prerequisite: Carpentry I.
Course Content: Basic stair design and layout, concrete practice, supervisory responsibilities.

BRICKLAYING

MAS 900 — **Fee: $30.00, 60 hours, Campus CL**
Thursday, 7:00 to 10:00 p.m.

Prerequisite: This course is for tradesmen interested in improving and upgrading their skills and also for laymen who are interested in the trade.
Course Content: Bonds, preparation of mortars, layout of different types of walls, piers, pilasters; tools and equipment; types of bricks with characteristics and sizes; sand; sand, lime, and cement; methods of storage; preparation of mortars in cold weather.

PLUMBING BASIC

PLUM 900 — **Fee: $30.00, 60 hours, Campus CL**
Wednesday, 7:00 to 10:00 p.m.

Course Content: Measuring pipe, pipe materials, drainage terms, fundamentals of drainage design, stack terms, footings and terminals, traps and trap seal loss, vents and venting, wastes, sizing, prohibited fittings and connections.

PLUMBING INTERMEDIATE

PLUM 901 — **Fee: $30.00, 60 hours, Campus CL**
Wednesday, 7:00 to 10:00 p.m.

Course Content: Stack, wet loop and circuit venting, stack elevation work, grease and oil interceptors, sewage tanks, floor drains, drain plans, water services and meters, B.T.U.'s, pressures and heads.

PLUMBING QUALIFICATION

PLUM 902 — **Fee: $30.00, 60 hours, Campus CL**
Tuesday and Thursday, 7:00 to 10:00 p.m.

This is designed as a refresher course in general plumbing theory and code (Provincial) for those required to write the Ontario Certificate of Qualification examination.

PLUMBING DESIGN ENGINEERING I

PLUM 903 — **Fee: $30.00, 60 hours, Campus CL**
Tuesday, 7:00 to 10:00 p.m.

This course is intended to provide design draftsmen, plumbing foremen and plumbers with the fundamentals of plumbing and drainage design and the basic understanding of principles and practices used in plumbing engineering.
Course Content: Roof and area drainage, manhole and catch basins, flow-in open channels and conduits, water pipe sizing, flow co-efficients, demand flow; hot water generators and storage tanks, water hammer, sewage pit sizing and pump selection, pump controls, heads and curves, selection of plumbing fixtures, locations for soil waste and vent stacks.

PLUMBING DESIGN AND INSTALLATION

PLUM 904 — **Fee: $30.00, 60 hours, Campus CL**
Tuesday and Thursday, 7:00 to 10:00 p.m.

This course is designed for those wishing to prepare themselves for the responsibility of a master plumber.
Prerequisite: Journeyman's licence or Ontario Certificate of Qualification.
Course Content: Review of legislation relevant to the construction industry. Examination discussion and interpretation of the Ontario Plumbing Code. Mathematics and physics are necessary to understand design problems. Discounts, overhead and profit applications.

SWIMMING POOL OPERATORS

PLUM 905 — **Fee: $30.00, 30 hours, Campus CL**
Thursday, 7:00 to 10:00 p.m.

This course is designed primarily for those people who are responsible for the operation and maintenance of public swimming pools. Private pool owners may also be interested. Areas covered include: safety, sanitizing of surfaces, storage of chemicals, water quality control and testing, pool regulations, lighting, electrical safety, heating, filters, winterizing, algae control, layouts and fittings, recirculation and vacuum pumps and strainers.

SHEET METAL PATTERN DRAFTING — Part I

SM 900 — **Fee: $30.00, 60 hours, Campus CL**
Monday, 7:00 to 10:00 p.m.

This course is designed primarily for apprentices who require upgrading. The layout method is predominantly in parallel line, with some radial line development.

SHEET METAL PATTERN DRAFTING — Part II

SM 901 — **Fee: $30.00, 60 hours, Campus CL**
Tuesday, 7:00 to 10:00 p.m.

The material covered in this course stresses radial line development, with some parallel line of flat surfaces and is intended to assist the apprentice to upgrade to the intermediate level.

SHEET METAL PATTERN DRAFTING — Part III

SM 904 — **Fee: $30.00, 60 hours, Campus CL**
Thursday, 7:00 to 10:00 p.m.

This level of pattern drafting covers the triangulation method of development. The course is geared to apprentices who require this training for upgrading purposes.

SHEET METAL THEORY

SM 907 — **Fee: $30.00, 60 hours, Campus CL**
Wednesday, 7:00 to 10:00 p.m.

This is a general refresher course in sheet metal theory for those required to write the Ontario Certificate of Qualification. It is also accepted for apprenticeship upgrading.

SHEET METAL DESIGN AND INSTALLATION

SM 903 **Fee: $30.00, 60 hours, Campus CL**

Monday and Wednesday, 7:00 to 10:00 p.m.

This course is designed for those who wish to prepare themselves for the responsibilities of a master sheet metal worker.

Prerequisite: Currently employed in the sheet metal industry with a journeyman standing.

Course Content: Labour legislation in relation to the construction industry — city bylaws, underwriters, definition of terms applied to heating and air conditioning, use of N.W.A. and A.C.A. manuals for heat loss and heat gains, pipe sizing and location of outlets and inlets in residential installation, types of fans, air flow and types of instruments used, calculations in ventilation requirements, heating and pipe sizing by velocity, use of charts and tables.

STEAMFITTING QUALIFICATION

STEA 902 **Fee: $30.00, 60 hours, Campus CL**

Tuesday and Thursday, 7:00 to 10:00 p.m.

Offered as a refresher course in general steamfitting theory for those required to write the Certificate of Qualification examination.

STEAMFITTING PNEUMATIC CONTROLS — Part I

STEA 903 **Fee: $30.00, 60 hours, Campus CL**

Monday, 7:00 to 10:00 p.m.

This course is designed for journeymen steamfitters who wish to broaden their knowledge in this specialized field.

Course Content: Elements of control, advantage and performance of pneumatic controls, control drawings, pipe installations, control theory, control applications, control adjustments, air compressors, maintenance of controls.

AIR CONDITIONING DESIGN I

AIR 900 **Fee: $45.00, 90 hours, Campus CL**

Monday, 7:00 to 10:00 p.m.

This course is designed to cover the basic theory and application of air conditioning system design. It is offered for persons who have an interest in the heating and cooling of buildings and wish to acquire a working knowledge of the modern methods used for the design of air conditioning systems for residential and small commercial buildings.

Prerequisite: Applicant should have a reasonable knowledge of mathematics and English at the grade X level.

Course Content: Body comfort, air cycles; refrigeration cycle; heat sources and characteristics; psychrometric terms, chart and basic psychrometric processes; cooling and heating load calculations for residences by H.R.A. Manual — J and air conditioning load estimating by ASHRAE methods for small commercial buildings; air distribution, duct design (residential) by HRA Manuals and for commercial application by the Equal Friction Chart; selection and application of self-contained package air conditioning equipment; air conditioning controls; balancing air conditioning systems.

AIR CONDITIONING DESIGN II

AIR 901 **Fee: $45.00, 90 hours, Campus CL**

Tuesday, 7:00 to 10:00 p.m.

This course is designed for people who wish to have a working knowledge of commercial and industrial air conditioning systems design.

Prerequite: Grade XII or equivalent industrial experience.

Course Content: Influence of temperature, humidity and air motion on comfort; review of basic principles; components of an air conditioning system; behaviour of air vapour mixtures; psychrometric chart; sensible and latent heat; dehumidifying processes as related to designing of air conditioning systems; heating and cooling load calculations from internal and external sources; room air distribution and air duct design, using equal friction, velocity reduction and static regain methods; cooling coil performance and selection.

All terms and calculations are based on accepted practices ASHRAE.

AIR CONDITIONING CONTROL

AIR 902 **Fee: $45.00, 90 hours, Campus CL**

Wednesday, 7:00 to 10:00 p.m.

Prerequisite: AIR 901 or equivalent industrial experience.

This course is designed to cover the basic theory and application of automatic controls as applied to heating, ventilating and air conditioning systems. It is of practical use to engineers, technologists and draftsmen employed with consulting engineers, contractors and automatic control manufacturers.

Course Content: Introduction to automatic control, fundamentals of measurement; electric, electronic and pneumatic control circuits and units. Selection of control valves and dampers, typical applications to radiation, central-fan heating, commercial refrigeration, fan-coil units, induction units and year-round air conditioning systems.

AIR CONDITIONING DESIGN III

AIR 904 **Fee: $45.00, 90 hours, Campus CL**

Thursday, 7:00 to 10:00 p.m.

This course is designed to complement AIR 901 and for people with a substantial knowledge of pyschrometrics and load calculation. This course explains the different types of cooling equipment available and shows how to select the proper equipment.

Prerequisite: Air 901 or people presently employed in the air conditioning industry with a strong background in load calculations and psychrometrics.

Course Content: Principles of mechanical refrigeration involving behaviour of refrigerants; tables, pressure enthalpy diagrams, refrigeration effect, compressor cycle, subcooling volumetric efficiency; components, functions and selection of air handling equipment; control principles and methods for all air systems; need for zoning; reciprocating refrigeration equipment; centrifugal refrigeration equipment; absorption refrigeration equipment; heat pump package; heat ejection equipment; large package equipment; water chilling equipment; water systems and piping; refrigerant piping and systems; a project design and selection problem.

AIR CONDITIONING RESIDENTIAL AND SMALL COMMERCIAL

AIR 905 **Fee: $30.00, 60 hours, Campus CL**

Monday, 7:00 to 10:00 p.m.

This course is designed to cover sales, design, selection, installation and service of mechanical air cooled air conditioning equipment to 5 tons capacity for new and existing building installations.

Prerequisite: Applicants should be employed in the heating or air conditioning industry as journeymen or equivalent.

Course Content: Refrigeration definitions, cycle compressors, condensers, evaporators, tubing and connections, safety, instruments, electric motors, electrical applied to refrigeration motors, electrical circuits, certified equipment, predicting and controlling sound levels, winter operation, selection of equipment, estimating, installation start-up, air problems and measurement, and service analysis.

WARM AIR HEATING AND AIR CONDITIONING (Domestic)

HT 900 **Fee: $45.00, 90 hours, Campus CL**

Monday, 7:00 to 10:00 p.m.

This course is provided for persons who have a general knowledge of house construction and the problems relating to domestic heating, and persons who may be connected with the heating industry who wish to acquire a working knowledge of the basic and more advanced techniques involved in the design and application of warm air heating and air conditioning systems and equipment.

Prerequisite: Grade X or equivalent.

Course Content: Heat loss and heat gain calculations by H. R. A. methods; components, equipment and controls for heating and cooling, system specifications, zoning and duct sizing by H. R. A. manuals — 'A' and No. 9, use of the Equal Friction Charts; uses of the Psychrometric Chart; humidification and dehumidification, the heat pump, air cleaning, system balancing.

OIL BURNER III

HT 130 **Fee: $20.00, 30 hours, Campus CL**

Tuesday, 7:00 to 10:00 p.m.

This course consists of approximately 40% theory and 60% shop, and is designed to prepare students to write examinations for Oil Burner Servicing Licence Class III.

Prerequisite: Grade X or working with associated trades.

Course Content: Types of domestic burners, parts of burners, filters, purposes of controls, settings for basic controls, fuel line problems, safety precautions, public relations, procedure for annual conditioning.

OIL BURNER II

HT 131 **Fee: $30.00, 60 hours, Campus CL**

Monday and Wednesday, 7:00 to 10:00 p.m.

This course consists of approximately 50% theory and 50% shop. It is designed to prepare students to write the examination for Oil Burner Servicing Licence Class II.

Prerequisite: HT 130 or satisfactory experience.

Course Content: Theory of combustion, types of burners, fuel units, transformers, combustion changers, nozzles, tank installations, controls, heating systems, wiring diagrams, service procedures, regulations, public relations.

OIL BURNER I (Commercial and Industrial)

COMMERCIAL AND INDUSTRIAL OIL BURNERS

HT 901 **Fee: $45.00, 90 hours, Campus CL**

Monday, 7:00 to 10:00 p.m.

This course is designed to prepare students to write the examination for Oil Burner Licence Class I.

Prerequisite: Oil Burner Licence Class II.

Course Content: Properties of commercial fuel oil, types of burners, preheaters, burner selections, fuel gas analysis, combustion control, non-programming sequence, programming schematic piping and wiring diagrams of combustion systems, tank installations, service analysis and regulations.

GAS FITTER II

HT 140 **Fee: $30.00, 60 hours, Campus CL**

Tuesday and Wednesday, 7:00 to 10:00 p.m.

This course is designed for persons presently engaged in the heating or appliance field, who wish to obtain the necessary knowledge to write the Energy Branch, Gas Fitter II examination for the Gas Fitter II Licence.

Course Content: Properties of natural gas, fundamentals of combustion, gas piping, venting, appliance requirements, fundamentals of gas controls, conversion burners, commercial and industrial utilization, service problems, shop work.

GAS FITTER I

HT 902 **Fee: $30.00, 60 hours, Campus CL**

Tuesday and Thursday, 7:00 to 10:00 p.m.

Prerequisite: Applicants should have a Gas Fitter II Licence and be employed in the industry. They will write an examination for the Gas Fitter I Licence.

Course Content: Fundamentals of combustion control, flame detection devices, firing systems, firing sequences and programs, logic diagrams, combustion controls, non-programming and programming, gas fired conversion burners and boilers, boiler classification and terminology, input calculations, burner installations, fuel gas analysis and boiler efficiency, types of conversion burners and package boilers, required CGA valve train assemblies, schematic wiring diagrams, commercial hot water heaters, hot water heaters selection (calculations), mixing valves and accessories, gas controls, commercial hot water systems, miscellaneous equipment, multiple hot water heating units, infra-red burners, make-up air heaters and gas-fired air conditioning.

GAS APPLIANCES

AP 900 **Fee: $30.00, 60 hours, Campus CL**
Monday and Thursday, 7:00 to 10:00 p.m.
Commencing April 2, 1974

Prerequisite: Grade 10 or equivalent.
Course Content: Gas ranges, classification and types, gas range adjustment and servicing, tip burner adjustments, simmer adjustments, low temperature oven burner adjustments; oven heat control, broiler adjustments, burner valves, range pilots, by-pass flame adjustments, automatic gas range ovens, gas dryers, classification and types, gas dryer operation, dryer controls, thermostat, timer, door switch, solenoid valve, warp safety switch, dryer installation, gas connection, exhaust system, electrical systems, schematic wiring diagrams, circuit testing and fault finding, miscellaneous appliances, gas refrigerators, gas-fired incinerators, gas lamps, LP conversion.

PROPANE GAS

AP 902 **Fee: $30.00, 60 hours, Campus CL**
Wednesday, 7:00 to 10:00 p.m.

This course is designed to prepare the students to write the examination for the Propane Gas Fitter Licence.
Prerequisite: Grade 10 or equivalent.
Course Content: Properties of propane gas basic requirements for field approved appliances, propane piping and tubing requirements, review of ventilation and combustion air, general requirements for appliances, storage and handling, cylinder filling, location and storage, propane tanks, accessories and equipment, transports and tank trucks and the transportation of propane, propane as an engine fuel, vaporizers, indirect and direct fired cylinder systems for highway mobile vehicles, review of basic domestic gas burner controls and heating system, review of the domestic hot water heater.

APPLIANCE SERVICING — Part I
(Electrical Fundamentals and Small Appliances)

AP 903 **Fee: $30.00, 60 hours, Campus CL**
Tuesday and Thursday, 7:00 to 10:00 p.m.

Prerequisite: Grade 10 or satisfactory equivalent.
Course Content: Nature of electricity, basic electrical quantities, Ohm's Law and its application, electrical circuits, magnetism and electromagnetism, electrical circuitry and fault finding, motors, power and heating effects, electrical measuring instruments, various switching devices, theory and repair of small appliances, ranges.

APPLIANCE SERVICING — Part II (Domestic Refrigeration)

AP 904 **Fee: $30.00, 60 hours, Campus CL**
Monday and Wednesday, 7:00 to 10:00 p.m.

Prerequisite: Grade 10 or equivalent.
Course Content: Fundamentals, compression system of refrigeration, refrigerants, liquid feed devices, evaporators, compressors, condensers, electric motor controls, defrosting methods, food preservation, evaluating and charging, conditioners, circuit tracing, fault finding, service analysis.

APPLIANCE SERVICING — Part III (Laundry Equipment)

AP 905 **Fee: $30.00, 60 hours, Campus CL**
Tuesday, 7:00 to 10:00 p.m.

Prerequisite: Satisfactory completion of AP 903 or equivalent.
Course Content: Theory and operation of wringer and automatic washers, dryers, and dishwashers; fault finding and repair procedures, circuit tracing, service analysis.

REFRIGERATION — Part I (Basic)

REF 900 **Fee: $30.00, 60 hours, Campus CL**
Monday and Thursday, 7:00 to 10:00 p.m.

Prerequisite: Applicants should be employed in the refrigeration industry or some allied trade.
Course Content: Refrigeration fundamentals and principles, compression system of refrigeration, properties of refrigerants, metering devices, expansion valves, evaporators, condensers, compressors, flow equipment, electric controls and control valves, lubrication, servicing (charging and evacuation), trouble shooting problems, shop demonstrations of silver brazing.

REFRIGERATION — Part II (Intermediate)

REF 901 **Fee: $30.00, 60 hours, Campus CL**
Monday and Thursday, 7:00 to 10:00 p.m.

Prerequisite: Successful completion of REF 900 or equivalent experience.
Course Content: Review of fundamentals, defrosting methods, compressor drives, instruments and meters, piping and refrigerant lines, pressure drops, heat calculations, refrigerated enclosures, survey of refrigeration applications, humidity in refrigeration, cooling load calculations, secondary refrigerants, liquid cooling, absorption systems, codes and by-laws, safety precautions.

REFRIGERATION — Part III

REF 902 **Fee: $45.00, 90 hours, Campus CL**
Tuesday, 7:00 to 10:00 p.m.

This course is designed to help prepare the student to write the Certificate of Qualification examination.
Prerequisite: REF 901.
Course Content: Roof top condensers, piping systems, brines, pumps, chillers, centrifugal compressors, heat pumps, symbols, starts and contractors, packaged units, humidifiers, dehumidifiers, spray apparatus, ponds, air cleaning equipment, electronic and curtain; odour control, load calculation commercial and air conditioning, selection of equipment, pneumatic systems, control circuitry, trouble shooting, safety.

QUANTITY SURVEYING — Part I
AND BUILDING CONSTRUCTION ESTIMATING

CO 101 **Fee: $30.00, 60 hours, Campus CL**
Wednesday, 7:00 to 10:00 p.m.

This course is offered to small builders and those wishing to commence studies for Canadian Institute of Quantity Surveyors examinations. Successful completion of the course is recognized by C.I.Q.S. as an exemption from their examination Quantities I.

Course Content: Mathematics related to take off, general methods and procedures for taking off quantities for excavation; site work, concrete, formwork, reinforcement, brick and block masonry, and rough carpentry.

Textbook — Method of Measurement of Construction Works (current edition), published by Canadian Institute of Quantity Surveyors.

PRINCIPLES OF CONCRETE

CO 105 **Fee: $30.00, 60 hours, Campus CL**

Tuesday, 7:00 to 10:00 p.m.

A study of the overall cement and concrete manufacturing industry; the historical background and uses of concrete and concrete products; a detailed study of cement and its properties, concrete mix design, carrying out of standard quality control testing procedures, and compilation of results; the use, application and characteristics of soil cement.

CONSTRUCTION METHODS AND MATERIALS (Building Construction)

CO 901 **Fee: $30.00, 60 hours, Campus CL**

Thursday, 7:00 to 10:00 p.m.

Course Content: Brick material, masonry, bricks, tiles, etc., doors and windows, light wood framing, foundations, excavation and waterproofing.

Textbooks — Materials and Methods of Architectural Construction by Parker, Gay and MacGuire, published by John Wiley & Sons Inc.; Principles and Practice of Light Construction by R. C. Smith.

CONTRACT PLANNING AND CONTROL FOR CONSTRUCTION

CO 904 **Fee: $30.00, 60 hours, Campus CL**

Tuesday, 7:00 to 10:00 p.m.

This is a practical course for all members of the construction industry.

Course Content: Principles of Management, Pre-tender Planning, Basic network, C. P. M. Pert, Bar charts, Cascade Charts, Line of Balance method. Resources and cost control in project management. Introduction to use of computer as an aid to scheduling. C.I.Q.S. credit subject number 16.

BLUEPRINT READING FOR MECHANICAL/ELECTRICAL CONSTRUCTION TRADES

CO 905 **Fee: $30.00, 60 hours, Campus CL**

Monday, 7:00 to 10:00 p.m.

Prerequisites: Persons employed in the construction industry and those studying in courses covering the various aspects of the industry.

Course Content: Plan reading and interpretation of architectural drawings. heating and ventilation drawings, plumbing and drainage drawings and electrical drawing with respect to symbols, conventions, systems and general methods of installation.

MECHANICAL AND ELECTRICAL SYSTEMS IN BUILDING — Part I (Plumbing, Fire Protection and Heating)

CO 906 **Fee: $20.00, 30 hours, Campus CL**

Tuesday, 7:00 to 10:00 p.m. (Oct. to Dec.)

This course is intended for all members of the construction industry other than mechanical electrical specialists. It will be of special interest to builders, superintendents, estimaters, and others.

Course Content: Plumbing and drainage including supply, fixtures, fittings and disposal.

Heating: Warm air, hot water and steam including energy sources and boilers and furnaces. C.I.Q.S. credit subject number 9.

MECHANICAL AND ELECTRICAL SYSTEMS IN BUILDING — Part II (Air Conditioning and Electrical)

CO 907 **Fee: $20.00, 30 hours, Campus CL**

Tuesday, 7:00 to 10:00 p.m. (Jan. to March)

A continuation of Part I, CO 906, intended for the same members of the industry.

Course Content: Air conditioning, principles and terminology, systems and equipment.

Electrical Systems: Electricity and electrical circuits, lighting fundamentals, various fixtures and fittings; service systems; distribution systems; special systems: fire alarms, intercom, TV, clocks, etc. C.I.Q.S. credit subject number 11.

CONSTRUCTION LABOUR RELATIONS IN CANADA

CO 908 **Fee: $35.00, 60 hours, Campus CL**

Monday, 7:00 to 10:00 p.m.

This course is open to those connected with the construction field or those who seek an understanding of labour relations in Canada's largest industry. Topics to be covered include a brief history of the construction trade unions, labour legislation across Canada with particular emphasis on the Ontario scene, jurisdictional conflicts and other construction related labour subjects. Also treated will be the subject of construction safety. Besides lectures, there will be group discussions and some role playing during the term of the course.

CODES, REGULATIONS AND CONTRACTS

CO 909 **Fee: $30.00, 60 hours, Campus CL**

Wednesday, 7:00 to 10:00 p.m.

Contract law and documents, information for bidders, standard general conditions, specifications, scheduling and codes.

BLUEPRINT READING FOR THE CONSTRUCTION TRADES

DR 10/20/131 **Fee: $30.00, 60 hours, Campus CL**

Tuesday, 7:00 to 10:00 p.m.

This course is intended for those working in all branches of the building trades and serves as a foundation for further study. It is also of much practical value

to people engaged in many fields of business and industry who work in conjunction with the building trades. The content of the course includes the basic principles of drawings and a detailed study of blueprints.

Course Content: Orthographic projection, dimensions, pictorial drawing, drawing to scale, symbols and conventions, standard constructions, plan study, construction details, plan reading and interpretation.

ARCHITECTURAL DRAFTING — Part I

DR 900 **Fee: $30.00, 60 hours, Campus CL**

Tuesday, 7:00 to 10:00 p.m.

Course Content: Drafting equipment and procedure, Canadian symbols and conventions, foundation and floor plans for various types of construction, site plans, typical wall section, window details, door details, lathing and plastering details, stair details, fireplace and chimney details, simple structural steel and reinforced concrete details, freehand sketches.

Textbooks — Architectural Drawing and Light Construction by Muller, published by McGraw-Hill Publishing Co.; Architectural Drawing Standards, No. 33G97, by National Research Council, published by Queen's Printer, Ottawa.

ARCHITECTURAL DRAFTING — Part II

DR 901 **Fee: $30.00, 60 hours, Campus CL**

Tuesday, 7:00 to 10:00 p.m.

This course will be a continuation of Part I, with elaboration of topics and addition of new materials and methods to allow progression to the drawing of a complete set of working drawings for a small industrial building. The emphasis of this course is NOT on aesthetic or structural design but primarily on skill development required to produce a set of drawings to the highest standard of delineation.

Prerequisite: Successful completion of Part I, persons presently employed in the field of architectural drafting at the junior level, or graduates of grade 12 architectural drafting.

Course Content: Planning drawing layout; presentation drawing in the form of rendered plan and elevation; drawing the plan or plans, elevations, full sections, details and structural drawings.

Textbook — Architectural Drafting and Light Construction by Muller, published by McGraw-Hill.

STRUCTURAL STEEL DESIGN AND DETAILING

STR 122 **Fee: $30.00, 60 hours, Campus CL**

Monday, 7:00 to 10:00 p.m.

Course Content: Force systems, force analysis of structures, stress, strain, shear and moment in beams. Design of columns, beams, bolted and welded connections.

Texts: Handbook of Steel Construction, C.I.S.C. Simplified Engineering for Architects and Builders—Parker-Wiley.

REINFORCED CONCRETE DESIGN

STR 218 **Fee: $30.00, 60 hours, Campus CL**

Tuesday, 7:00 to 10:00 p.m.

Course Content: The theory of mechanics of reinforced concrete design such as modules of elasticity, moments of reaction, shear and bending.
Design of reinforced concrete components including footings, beams, solid, ribbed and stair slabs, web reinforcement, bar schedules and bar placement. Using working stress and ultimate strength design methods.
Reference Texts: National Building Code, Simplified Design of Reinforced Concrete—Parker, Gay, MacGuire, John Wiley and Sons.

STRUCTURAL DESIGN (Basic)

STR 900 **Fee: $30.00, 60 hours, Campus CL**

Tuesday, 7:00 to 10:00 p.m.

This course is of interest to the person who wishes a general information course rather than a detailed study of the latest structural design methods. It will contain basic principles pertaining to reinforced concrete design with emphasis on the ultimate strength design; structural steel design, relating to structural members and frames of structural steel components.
Reference Texts: N.B.C. Building Code—5th Edition, A.C.I. Manual of Concrete Practice and C.I.S.C. Handbook of Steel Construction.

PLANE SURVEYING — A.T.E.C. Program (Approved)

SURV 101 **Fee: $30.00, 60 hours, Campus CL**

Tuesday, 7:00 to 10:00 p.m.

Prerequisite: MATH 100.
Course Content: Importance of surveying, correction for measured distances, use of simple distance-measuring equipment; measurement of angles with transit; differential trigonometric, profile and cross-section levelling; type, adjustments and use of levels, problems; methods of stadia, problems, topographical surveys, contour lines, direction of line, magnetic meridian and declination, isogonic chart, azimuth and bearing of a line, traverse surveys and computations, closing a traverse by latitudes and departures, traverse computations of topographic map; construction surveys, municipal surveys, grades, methods of setting grades; horizontal circular curves, theory, computations, field practice; demonstration of modern survey equipment.

ADVANCED PLANE SURVEYING

SURV 201 **Fee: $30.00, 60 hours, Campus CL**

Thursday, 7:00 to 10:00 p.m.

Prerequisite: SURV 101 or equivalent.
Course Content: Simple curves, vertical curves, curve intersections, transition curves, stadia surveying, route surveys, area surveys, optics, adjustments of instruments, photogrammetry, observation for meridian.

LEGAL SURVEYING

SURV 204 **Fee: $30.00, 60 hours, Campus CL**

Thursday, 7:00 to 10:00 p.m.

This course is of interest to land speculators, developers, property agents, real estate salesmen and survey personnel, and is designed to acquaint the

individual with the various methods of land registration in Ontario.
Course Content: Registry office, land titles office, history and development; types of documents and plans; government acts, expropriation procedures, plans; methods of registration, legal transfer and general procedures; deeds; description of township offices.

ARCHITECTURAL DESIGN AND PLANNING

SURV 901 **Fee: $30.00, 60 hours, Campus CL**
Wednesday, 7:00 to 10:00 p.m.

Human and sociological factors in architectural and municipal planning, optimum utilization of existing urban facilities.

CREDIT COURSES TOWARDS
CERTIFICATION FOR STATIONARY ENGINEERING

Each of the following courses is of 60 hours duration and encompasses modules as indicated. Each course has a fee of $30.00 and is conducted at the Casa Loma Campus.

STAT 900 — 4th Class

Mathematics I	A500
Physics I	A508
Chemistry I	A516

Monday, 7:00 to 10:00 p.m.

STAT 901 — 4th Class

Steam Boilers	A529

Day and hour: Phone 967-1212, Ext. 378

STAT 902 — 4th Class

Language and Communication I	A504
Rigging	A117
Plant Services I	C563
Introduction to Sketching	C292
Basic Hand Tools	C577

Day and hour: Phone 967-1212, Ext. 378

STAT 903 — 4th Class

Steam Plant Auxiliary Equipment I	A533
Feedwater Treatment I	C540
Steam Engines	C557

Day and hour: Phone 967-1212, Ext. 378

STAT 904 — 3rd Class

Instrumentation and Controls II	A544
Turbines I	C554

Day and hour: Phone 967-1212, Ext. 378

STAT 905 — 2nd Class

Electrical III	C524
Electronics II	C527

Day and hour: Phone 967-1212, Ext. 378

STAT 906 — 1st Class

Electronics III	C528
Electrical II	C525

Day and hour: Phone 967-1212, Ext. 378

Business and Commerce Courses

ACCOUNTING

ACC 100	Accounting I
ACC 101	Accounting II
ACC 152	Bookkeeping
ACC 202	Cost Accounting
ACC 208	Taxation

ADVERTISING & SALES

BC 102	Advertising
BC 900	Basic Principles of Advertising, Sales and Merchandising
BC 905	Improving Advertising Efficiency
BC 906	Purchasing

INVESTMENT

BC 907	Art and Antiques as Investments
BC 908	Bonds & Equity Investment

BUSINESS MACHINES

BM 148a	Business Machines (Bookkeeping Machines)
BM 173	Business Machines (Duplicating Machines)
BM 901	Business Machines (Comptometer a)
BM 902	Business Machines (Comptometer b)
BM 905	Dictaphone

MANAGEMENT

BUS 900	Business Management I
BUS 901	Business Management II
BUS 902	Personnel Administration

DATA PROCESSING

EDP 170	Data Processing — Keypunch & Verifier
EDP 100	Introduction to Data Processing
EDP 101	Introduction to COBOL
EDP 102	Introduction to FORTRAN

MARKETING

MARK 100	Marketing
MARK 201	The Sales Aspect of Marketing

OFFICE PRACTICE

OP 149a	Office Practice A
OP 149b	Office Practice B

SHORTHAND

SH 102	Legal Stenographic
SH 900	Refresher Course — Theory of Pitman Shorthand
SH 901	Shorthand — Advanced Speed Level
BUS 106	Pitman Script
SH 903	Programme 21—Theory
SH 904	Programme 21—Elementary Speed
SH 905	Programme 21—Intermediate Speed
SHF 149a	Forkner Shorthand — Theory
SHF 149b	Forkner Shorthand — Speed

SHM 100	Machine Shorthand — Theory
SHM 101	Machine Shorthand — Elementary Speed Level
SHM 200	Machine Shorthand — Intermediate Speed Level
SHP 100	Pitman Shorthand — Theory
SHP 101	Pitman Shorthand — Elementary Speed Level
SHP 200	Pitman Shorthand — Intermediate Speed Level
SHP/M 201	Shorthand—Speed Level

TYPING

TYP 152a	Typewriting A — (Beginning Typewriting)
TYP 152b	Typewriting B — (Advanced Typewriting)
TYP 900	Typewriting Basic — Lumisonic
TYP 901	Typing and Office Practice

DPMA CERTIFICATE COURSES

EDP 901	Data Processing Equipment
EDP 904	Fundamentals of Computer Software
EDP 907	Programming Languages
EDP 910	Principles of Management
EDP 913	Data Processing Management
EDP 916	Basic Accounting
EDP 919	Mathematical Techniques
EDP 922	Systems Design I
EDP 925	Systems Design II
EDP 928	On-Line Computing Systems
EDP 950	Principles of Programming
EDP 953	Meta Programming Systems
EDP 956	Problem-Oriented Languages
EDP 959	Data Processing Systems Design and Advanced COBOL

RECORDS

MICRO 900	Microfilm for your Business

BUSINESS AND COMMERCE

ACCOUNTING I

ACC 100 — **Fee: $30.00, 60 hours, Campus T**

Tuesday, 7:00 to 10:00 p.m.

Fundamental principles of accounting; the entire bookkeeping cycle, including journals, posting, preparation of trial balance, adjusting and closing entries and preparation of a post-closing trial balance; controlling accounts and specialized journals; a detailed study of accounts receivable, inventory valuation, fixed assets and depreciation, natural resources and depletion; the voucher system; notes and interest; payroll accounting.

ACCOUNTING II

ACC 101 — **Fee: $30.00, 60 hours, Campus T**

Wednesday, 7:00 to 10:00 p.m.

Partnerships: formation, division of profits, admission of new partner, goodwill and revaluation of assets, dissolution and liquidation; limited companies: organization and operation, share capital transactions, retained earnings, dividends and reserves, extraordinary gains and losses; bonds payable and sinking funds; investments; departmentalization and control; manufacturing accounting.

BOOKKEEPING

ACC 152 — **Fee: $30.00, 60 hours, Campus T**

Monday, 7:00 to 10:00 p.m.

NOTE: Credit subject for Canadian Institute of Quantity Surveyors.
Course Content: Starting a bookkeeping system, recording transactions affecting balance sheet amounts, recording transactions affecting income and expense amounts, the income statement and the balance sheet, journalizing, posting and taking a trial balance, the six-column work sheet, closing entries and post-closing trial balance, special journals and subsidiary ledgers, bank reconciliations, the eight-column work sheet with adjusting and closing entries, and financial reports.

COST ACCOUNTING

ACC 202 — **Fee: $30.00, 60 hours, Campus T**

Wednesday, 7:00 to 10:00 p.m.

The course is designed for students with an accounting standing equivalent to ACC 100 and 101 or for those who are currently engaged in the bookkeeping field in industry and who wish to study cost accounting.
Course Content: Basic concepts, fundamental principles, materials, labour, and overhead as applied to cost accounting; the above concepts and principles utilized in the solution of simple costing problems and cost accounting techniques employed for the solution of major financial cases.

TAXATION

ACC 208 — **Fee: $30, 60 hours, Campus T**

Thursday, 7:00 to 10:00 p.m.

The Income Tax Act; computation of net income; capital cost allowance; capital gains and losses; computation of taxable income for individuals and corporations, trusts and partnerships; international income; returns, assessments, payments and appeals.
Prerequisite: ACC 100

ADVERTISING

BC 102 — **Fee: $30.00, 60 hours, Campus T**

Monday, 7:00 to 10:00 p.m.

An orientation course looking at advertising from the marketing, communications and consumer viewpoints. Stress will be placed on:
1. What advertising is, the position of advertising in our society, the psychology behind advertising.
2. Advertising as it exists in the framework of both marketing and communications.
3. A comprehensive study of the various types of media.
4. Advertising planning and management.

BASIC PRINCIPLES OF ADVERTISING, SALES AND MERCHANDISING

BC 900 — **Fee: $45.00, 90 hours, Campus T**

Thursday, 7:00 to 10:00 p.m.

Prerequisites: Persons involved in or hoping to become involved in this intriguing field. A good knowledge of English is necessary.

Course Content: Can be divided into three parts under topics to be covered as follows:
1. Advertising: analyzing product; print, radio or TV, direct mail, mail order, liaison with merchandising, copy preparation for print media, radio as a powerful selling force in retail, the use of posters, outdoor media.
2. Selling: personnel development; the nature of the selling process, factors in the selling process, the customer, product knowledge, the approach, the presentation, the close, the creative factor in all aspects of retail selling.
3. Marketing: as a process, nature of consumption, customer motivation, the overall marketing picture, the retailing structure planning and standardization of products, factors in buying, selection of channels of distribution, price determination and factors in setting prices, sales by marketing function.

IMPROVING ADVERTISING EFFICIENCY

BC 905 **Fee: $30.00, 60 hours, Campus T**
Wednesday, 7:00 to 10:00 p.m.

An advertising management course designed to help businessmen improve the efficiency of their advertising dollars. Stress will be placed on:
1. The role of advertising in the marketing mix.
2. Establishing specific advertising objectives.
3. Budgeting, planning and management.
4. Measuring advertising effectiveness.
5. Consumerism, ethics and law.

PURCHASING

BC 906 **Fee: $30.00, 60 hours, Campus T**
Thursday, 7:00 to 10:00 p.m.

Many smaller Canadian companies are approaching the volume of business which requires the benefit of a trained purchasing agent.
Course Content: The responsibilities of the purchasing agent in relation to the organization. The study of value analysis. Quantity purchases in relation to inventory control and traffic.

ART AND ANTIQUES AS INVESTMENTS

BC 907 **Fee: $45.00, 48 hours, Campus T**
Tuesday, 7:00 to 10:00 p.m.

The course is designed for beginning and advanced collectors of art and antiques. It will also be of value to those operating antique businesses and to those who are involved in estate evaluations.
Course Content: Investment principles, sources of supply, the changing market place, expert opinions for identification of silver, oriental rugs, glass, furniture and 20th century art. Lecturers will vary according to the special fields and, where possible, either samples will be brought to the class or the class will go to local dealers and/or galleries.

BONDS AND EQUITY INVESTMENT

BC 908 **Fee: $30.00, 60 hours, Campus T**
Monday, 7:00 to 10:00 p.m.

This course covers the why, when, and how of investments in the equity market, the purpose of stock issues, stock options, Dow Jones and other

significant indices, how to read financial statements and debentures, the operation of the stock exchanges, the role of the broker; portfolio evaluation and analysis together with portfolio management, utilizing case material.

BUSINESS MACHINES (Bookkeeping Machines)

BM 148a **Fee: $55.00, 120 hours, Campus T**
Monday and Wednesday, 7:00 to 10:00 p.m.

To introduce students to machine accounting procedures and to develop an operating speed which will be acceptable to industry.
Prerequisite: Grade 10 and a typewriting speed of at least 35 w.p.m.
Course Content: Instruction and practice in machine operation through the use of pre-recorded tapes and practical exercises. Accounts receivable, accounts payable, journal distribution and payroll are taught, using the following machines:
National Cash Model 3300 — Burroughs Sensimatic Models F.1100, F.6100 — Olivetti-Underwood Model 1502 — Monroe-President Model 145B — Smith Corona Marchant Model 602.

BUSINESS MACHINES (Duplicating Machines)

BM 173 **Fee: $55.00, 120 hours, Campus T**
Monday and Wednesday, 7:00 to 10:00 p.m.

This course will acquaint the student with current duplicating procedures and techniques which are employed in today's modern office.
Prerequisite: Grade 10 plus an acceptable typewriting speed.
Course Content: Preparation of masters and stencils, using typewriter and plate-making equipment; line justification and error correction procedures; operational maintenance and techniques of the offset press, mimeograph and spirit duplicator.

BUSINESS MACHINES

BM 901 **Fee: $30, 60 hours, Campus T**
Tuesday, 7:00 to 10:00 p.m.

The aim is to develop competent calculator operators with an acceptable operating speed and the ability to solve mathematical and business problems using the calculator as the problem-solving tool.
Prerequisite: Grade 10 plus an acceptable typewriting speed.
Course Content: Instruction and practice to develop efficient 10-key and full keyboard operation in all phases of addition, subtraction, multiplication and division as related to practical business problem-solving, taught with the following equipment: Friden, Monroe, SCM Rotary Calculators, Olivetti, Victor 10-key adders, printing calculators and electronic calculators.

BUSINESS MACHINES

BM 902 **Fee: $55.00, 120 hours, Campus T**
Monday and Wednesday, 7:00 to 10:00 p.m.

Graduates will acquire a knowledge of calculating machines sufficient to enable them to solve mathematical business problems, and to adapt quickly to any new equipment encountered in a business office. Those whose prerequisite qualifications include courses in bookkeeping will acquire a know-

ledge of performing the complete bookkeeping cycle on the bookkeeping machines and will become accredited machine bookkeepers.

Prerequisites: Grade 10 and typing of 35 wpm.

Course Content: Instruction on 10-key adders; rotary calculators; printing calculators; electronic calculators; editing, posting and bookkeeping machines.

DICTAPHONE

BM 905 **Fee: $30.00, 60 hours, Campus T**

Monday and Wednesday or Tuesday and Thursday 6:00 to 9:00 p.m.

The purpose is to prepare the student to become an accredited dictaphone secretary, with an initial capacity of 60 fifteen-line letters a day.

Prerequisite: A thorough knowledge of business English, spelling and setup of letters (minimum of grade 11) plus a typing speed of 45 w.p.m.

Course Content: Typing from dictabelt records put out by the Dictaphone Corporation.

BUSINESS MANAGEMENT I

BUS 900 **Fee: $30.00, 60 hours, Campus T**

Tuesday, 7:00 to 10:00 p.m.

This course will follow a combination of lectures, group discussions, and case studies.

Course Content: The organization structure and its relation to the behavioral sciences and communications; the decision-making process and decision theory, under risk and uncertainty.

BUSINESS MANAGEMENT II

BUS 901 **Fee: $30.00, 60 hours, Campus T**

Wednesday, 7:00 to 10:00 p.m.

Prerequisite: BUS 900.

Course Content: Planning analysis and control as related to marketing, finance, and organization theory. Advanced case studies, group discussions, and guest speakers will be used for advanced decision-making.

PERSONNEL ADMINISTRATION

BUS 902 **Fee: $30.00, 60 hours, Campus T**

Wednesday, 7:00 to 10:00 p.m.

The advent of technological change is altering our social and work environments; the effects of this change on personnel relations requires more extensive study and consideration by employers.

Prerequisite: Grade 12 and some related business experience.

Course Content: The development of personnel departments to meet employee needs; the indicated shift in these needs; technological change and its effect on unions; group relations; work conditions; staff relations: upward mobile, indifferent, and ambivalent. Case studies, discussions, and intensive readings will be used in the discussion of these topics.

DATA PROCESSING — KEYPUNCH & VERIFIER

EDP 170 **Fee: $70, 125 hours, Campus T**

Monday to Friday (5 nights), 4:00 to 6.30 p.m.

This course will bring the student to a high standard of accurate speed and machine familiarity so that the operator will be able to produce an acceptable quantity of high quality work on keypunch and verifier machines.

Prerequisite: Grade 10 plus 35 w.p.m. in typing or a pass mark on the I.B.M. keypunch operator's test.

Course Content: 20 taped lessons prepared by I.B.M. for Keypunch Models 024, 026, 029, 059, and 056 Verifier; Univac Verifier punch and Verifying Interpreting punch; N.C.R. Key to Tape Encoder; the operation and names of the various parts of the machines.

INTRODUCTION TO DATA PROCESSING

EDP 100 **Fee: $45.00, 90 hours, Campus T**

Monday and Wednesday, 7:00 to 10:00 p.m.

The purpose is to provide an overview of business data processing which will prepare the student for further study in the areas of programming and systems planning.

Course Content: Survey of the history of automatic data processing punched card data processing; modern business computers; central processing unit, levels of programming languages, software, particularly compilers, various I/O media and devices, batch processing versus online processing, applications, problem solving: algorithms, flowcharts, programming in BASIC using time-sharing terminals, visits to computer installations.

INTRODUCTION TO COBOL

EDP 101 **Fee: $45.00, 90 hours, Campus T**

Tuesday and Thursday, 7:00 to 10:00 p.m.

This course is designed to develop expertise in the use of problem-solving techniques and an awareness of the documentation standards required in a typical data processing department.

Prerequisite: Completion of EDP 100 and a satisfactory score on a programming aptitude test.

Course Content: Exercises in flowcharting and coding in BASIC, testing and debugging programs; introduction to COBOL; case problems involving typical accounting applications; use of standard forms for presenting problems to the student, and standard format to be followed by the student in his documention; operation of the computer in testing programs.

INTRODUCTION TO FORTRAN

EDP 102 **Fee: $45.00, 90 hours, Campus T**

Tuesday and Thursday, 7:00 to 10:00 p.m.

The course examines computer programming and software principles and combines theory with practical experience, using FORTRAN.

Prerequisite: Completion of EDP 101 and a satisfactory score on a programming aptitude test.

Course Content: Introduction to T/S FORTRAN line numbers, statement numbers, continuation comments, integer and real numbers, constants, variables, specification statements, subprograms, subroutine principles, sorting techniques, loops, data files, and batch FORTRAN.

MARKETING

MARK 100 **Fee: $30.00, 60 hours, Campus T**
Wednesday, 7:00 to 10:00 p.m.

Prerequisites: Grade 12 or equivalent.
Course Content: Introduction to basic marketing concepts and practices as related to the consumer. The course will cover marketing terminology, controllable and non-controllable variables, target market identification by demographic and geographic segmentation.

THE SALES ASPECT OF MARKETING

MARK 201 **Fee: $30.00, 60 hours, Campus T**
Wednesday, 7:00 to 10:00 p.m.

Designed for students enrolled in marketing courses or with previous business sales experience, who can be more effective by a further study in this field.
Course Content: Sales planning, sales techniques, sales force management and development, techniques and methods of recruiting, and sales training; case studies to assist in developing those skills.

OFFICE PRACTICE A

OP 149a **Fee: $30.00, 60 hours, Campus T**
Monday and Wednesday, 6:00 to 9:00 p.m.

To familiarize the student with the requirements, the characteristics, and the organization of business offices and the duties most frequently performed. Lecture time is kept to a minimum and practical assignments are emphasized.
Prerequisite: 35 w.p.m. in typing.
Course Content: Business organization: classification of business and types of ownership; purchasing, sales and accounting routines; the stenographic, administrative and receptionist duties of a secretary; sources of information; reports; manuscript typing and proofreading; familiarization with the services — postal, telephone, telegraph, cable and wireless, and banking — used by employers; more advanced typing theory with emphasis on typing from corrected copy/manuscript work; typing of balance sheets and financial statements with insertions made in red; and memoranda.

OFFICE PRACTICE B (Stenographic)

OP 149b **Fee: $30.00, 60 hours, Campus T**
Tuesday and Thursday, 6:00 to 9:00 p.m.

Gives the student a thorough familiarization with filing techniques and other duties performed by secretaries. Lecture time is kept to a minimum and practical assignments are emphasized.
Prerequisite: 35 w.p.m. typing plus OP 149a or equivalent.
Course Content: Different types of filing systems and procedures involved in filing — preparatory filing steps, cross-referencing, etc. The emphasis in the filing instruction is on completing practical, office-type assignments. Familiarization with different office machines — reproduction processes and reproduction machines; dictating and transcribing machines. Emphasis is also on the personal work the student, as a secretary, might be called upon to perform for her employer and includes such items as travel arrangement: typing itineraries, secretarial duties, expense reports; preparing legal documents: affidavits, endorsements, wills, etc., arranging meetings: agendas, memos, minutes; and a general review of office standards, grooming and deportment.

LEGAL STENOGRAPHIC

SH 102 **Fee: $45.00, 90 hours, Campus T**
Monday, 6:00 to 9:00 p.m.

This course is offered to those with a good basic knowledge of shorthand, who wish to become legal stenographers.
Prerequisites: SHP 101 or equivalent, plus grade 12 English or equivalent, and 45 w.p.m. in typewriting.
Course Content: Legal terms, dictation and transcription of legal letters; legal forms and documents.

REFRESHER COURSE — PITMAN SHORTHAND

SH 900 **Fee: $45.00, 90 hours, Campus T**
Tuesday and Thurday, 6:00 to 9:00 p.m.

Designed for those who have had Pitman shorthand in the past and require a quick review before going on to increased speed.
Prerequisite: Grade 12 English or equivalent; a reasonable knowledge of the theory.
Course Content: Quick review of the principles of Pitman shorthand; emphasis on facility in the use of short-forms, contractions, intersections and phrases; attention to development of speed.

SHORTHAND — ADVANCED SPEED LEVEL

SH 901 **Fee: $30.00, 60 hours, Campus T**
Saturday, 9:30 to 12:30 p.m.

This course is aimed at qualifying shorthand writers of all systems (Pitman, Machine, Gregg) for verbatim reporting positions. The following is a partial list of files open to verbatim reporters: Magistrates' Courts: County Division and Surrogate Courts; Supreme Court of Ontario; Exchequer Court of Canada; Admiralty Court; Juvenile and Family Courts; Special Examiners' Offices; House of Commons (Hansard); etc.
Prerequisite: The ability to write 120 w.p.m.
Course Content: Dictation of business letters, legal and literary matters, jury charges, court testimony, etc.; emphasis on the basic techniques required to attain high speeds in shorthand; high speed phrasing and short cuts.

PITMAN SCRIPT

BUS 106 **Fee: $45.00, 90 hours, Campus T**
Tuesday and Thursday, 6:00 to 9:00 p.m.

Pitman Script is a completely new system of fast writing which has been developed by a team of specialists. It is based on the twenty-six letters of the English alphabet and it uses only a few special signs for the most frequently occurring letters and words. This system is designed for those who want to write faster than is possible in ordinary longhand but who do not want to take the time or to make the necessary effort to learn a complete shorthand system; basic theory is mastered in only 30 hours.
Prerequisite: Grade 12 English or equivalent and at least 35 w.p.m. in typewriting.
Course Conent: A presentation of the principles of the system together with dictation which is introduced from the first lesson.

PROGRAMME 21 SHORTHAND

Programme 21 is a simplified form of Pitman shorthand. It consists of 21 theory lessons. Many of the pitfalls that beset students using the conventional system are eliminated. For example, there are no left-right decisions to make about hooks; they all go on the same side. There are no reverse forms and there are only single signs for all consonants. Also the list of brief forms is considerably shorter than in the conventional form.

PROGRAMME 21 — THEORY

SH 903 **Fee: $45, 90 hours, Campus T**

Tuesday and Thursday, 6:00 to 9:00 p.m.

In this level the theory of the system is thoroughly covered and a basis is laid for the development of speed.
Prerequisite: Grade 12 English or equivalent and minimum of 35 w.p.m. in typewriting.
Course Content: A presentation of the principles of the system, together with extensive dictation, which begins at the very first lesson.

PROGRAMME 21 — ELEMENTARY SPEED

SH 904 **Fee: $30, 60 hours, Campus T**

Tuesday and Thursday, 6:00 to 9:00 p.m.

This course is offered to those persons desiring to develop facility in writing Programme 21 Shorthand at speeds up to 80 w.p.m.

Prerequisite: Successful completion of theory level or equivalent, plus grade 12 English or equivalent and 45 w.p.m. in typewriting.

Course Content: Development of facility in writing and reading shorthand and transcribing notes at the typewriter.

PROGRAMME 21 — INTERMEDIATE SPEED

SH 905 **Fee: $45, 90 hours, Campus T**

Tuesday and Thursday, 6:00 to 9:00 p.m.

The purpose of this course is to develop facility in writing shorthand of average commercial difficulty at speeds up to 120 w.p.m. and in transcribing from notes at the typewriter.

Prerequisite: Elementary speed level or equivalent and 50 w.p.m. in typewriting, plus grade 12 English or equivalent.
Course Content: Development of skill in writing and reading shorthand notes and practice in transcribing notes at the typewriter in acceptable, mailable form.

FORKNER SHORTHAND

Forkner shorthand is designed for speeds up to 120 w.p.m. It is a system which employs a combination of longhand characters and shorthand symbols. It has been developed on the premise that it is a waste of time and a burden on the memory to learn shorthand characters for sounds that can be rapidly and easily expressed by longhand characters which the learner can already make at high speeds. Where longhand characters are complicated or require a number of strokes to write, a symbol has been substituted.

FORKNER SHORTHAND — THEORY

SHF 149a **Fee: $45.00, 90 hours, Campus T**

Tuesday and Thursday, 6:00 to 9:00 p.m.

This level provides a basis for the development of speed in writing shorthand.
Prerequisite: Grade 12 English or equivalent and a minimum of 35 w.p.m. in typewriting.
Course Content: A presentation of the principles of the system, together with extensive dictation which begins as early as lesson 5.

FORKNER SHORTHAND — SPEED

SHF 149b **Fee: $45.00, 90 hours Campus T**

Monday and Wednesday, 6:00 to 9:00 p.m.

For persons desiring to develop facility in writing Forkner shorthand at speeds up to 100 w.p.m.
Prerequisite: Completion of theory level or equivalent, plus grade 12 English or equivalent, and 45 w.p.m. in typewriting.
Course Content: Development of facility in writing and reading shorthand notes within the 3,000 word high-frequency range which makes up 97% of all ordinary dictation material; practice in transcribing notes at the typewriter.

MACHINE SHORTHAND

Machine shorthand or touch shorthand is a very modern and efficient system, utilizing a small, rugged, silent, non-electric machine which prints, at high speed, the familiar letters of the alphabet. The keyboard permits a number of letters, words and phrases to be printed at one stroke. With further practice, following the secretarial course in machine shorthand, the attainment of high speeds is possible; necessary in the fields of court reporting, reporting of commissions, conventions, meetings, arbitration hearings and so on.

MACHINE SHORTHAND — THEORY

SHM 100 **Fee: $65.00, 150 hours, Campus T**

Monday and Wednesday, 6:00 to 9:00 p.m.

To provide a basis for the development of speed in shorthand.
Prerequisite: Grade 12 English or equivalent.
Course Content: The basic fundamentals of the theory of machine shorthand, common short-forms and phrases. Dictation is introduced from the first lesson. By the end of the course considerable facility is acquired in note-taking from material of limited vocabulary.

MACHINE SHORTHAND — ELEMENTARY SPEED LEVEL

SHM 101 **Fee: $45.00, 90 hours Campus T**

Tuesday and Thursday, 6:00 to 9:00 p.m.

Offered to those persons desiring to develop facility in writing machine shorthand at speeds up to 80 w.p.m.
Prerequisite: SHM 100 or equivalent, plus grade 12 English or equivalent, and 45 w.p.m. in typewriting.
Course Content: Development of facility in writing and reading shorthand notes using simple commercial vocabulary; practice in transcribing notes at the typewriter in acceptable mailable form.

MACHINE SHORTHAND — INTERMEDIATE SPEED LEVEL

SHM 200 **Fee: $45.00, 90 hours Campus T**

Monday and Wednesday, 6:00 to 9:00 p.m.

To develop facility in writing shorthand of average commercial difficulty at speeds up to 120 w.p.m. and transcribing notes in acceptable mailable form.
Prerequisite: SHM 101 or equivalent, plus grade 12 English or equivalent, and 50 w.p.m. in typewriting.
Course Content: Continuation of SHM 101 above.

PITMAN SHORTHAND — THEORY

SHP 100 **Fee: $65.00, 150 hours, Campus T**

Tuesday and Thursday, 6:00 to 9:00 p.m.

To provide a basis for speed development in writing shorthand.
Prerequisite: Grade 12 English or equivalent.
Course Content: The basic fundamentals of the theory of Pitman shorthand, common short-forms and phrases. Particular emphasis is placed on the development of a high frequency vocabulary common to all dictation.

PITMAN SHORTHAND — ELEMENTARY SPEED LEVEL

SHP 101 **Fee: $45.00, 90 hours Campus T**

Tuesday and Thursday, 6:00 to 9:00 p.m.

This course is offered to those persons desiring to develop facility in writing shorthand at speeds up to 80 w.p.m. or more.
Prerequisite: SHP 100 or SH 900 or equivalent, plus grade 12 English or equivalent, and 45 w.p.m. in typewriting.
Course Content: Development of facility in writing and reading shorthand notes with particular emphasis on the 1,500 common-word vocabulary; practice in transcribing notes at the typewriter.

PITMAN SHORTHAND — INTERMEDIATE SPEED LEVEL

SHP 200 **Fee: $45.00, 90 hours Campus T**

Tuesday and Thursday, 6:00 to 9:00 p.m.

To further develop facility in writing shorthand of average commercial difficulty at speeds up to 120 w.p.m., and in transcribing from notes at the typewriter.
Prerequisite: SHP 101 or equivalent, and 50 w.p.m. in typewriting, plus grade 12 English or equivalent.
Course Content: Development of skill in writing and reading shorthand notes, with emphasis on short-forms and phrases; practice in transcribing notes at the eypewriter in acceptable, mailable form.

SHORTHAND — SPEED LEVEL

SHP/M 201 **Fee: $30, 60 hours, Campus T**

Tuesday and Thursday, 6:00 to 9:00 p.m.

This course is offered to those persons who have acquired the ability to take dictation at up to 80 w.p.m., but need help to further develop facility in writing shorthand or who have lost some speed through lack of use.
Prerequisite: SH 900, 904.
Course Content: Development of facility in writing and reading shorthand notes by the extensive use of taped dictation material.

TYPEWRITING A (Beginning Typewriting)

TYP 152a **Fee: $45.00, 90 hours Campus T**

Monday and Wednesday, or Tuesday and Thursday 6:00 to 9:00 p.m.

The purpose is to: (a) achieve a mastery of the keyboard using the touch system, plus an introduction to basic typewriting setups; (b) achieve 25 w.p.m. on five-minute tests.
Prerequisite: Basic knowledge of English.
Course Content: All the keys will be taught with special emphasis on the touch system (posture, good stroking, rhythm and correct fingering are an integral part.) The names, care, and proper manipulation of the parts of the machine will be introduced as required. The rules of syllabication and capitalization, an introduction to basic centering, tabulation and letters, plus typing of value for personal use.

TYPEWRITING B (Advanced Typewriting)

TYP 152b **Fee: $45.00, 90 hours Campus T**

Monday and Wednesday or Tuesday and Thursday 6:00 to 9:00 p.m.

The purpose is to: (a) further develop typewriting skills and to concentrate on more advanced typewriting setups; (b) achieve 40 w.p.m. on ten-minute tests.
Prerequisite: 25 w.p.m. or TYP 152a.
Course Content: During this course, emphasis will be placed on practical typing of tabulation-tables, and financial statements; centering of menus, programs, announcements; business letters — different styles, placement, carbon copies and envelopes; essential business forms; erasures and corrections; squeezing and spreading; duplicating — the typing of dittos, stencils, and offset masters; skill development to bring the typist up to 40 w.p.m. or better on ten-minute tests.

BASIC TYPEWRITING — LUMISONIC

TYP 900 **Fee: $26.00, 40 hours, Campus T**

One hour per night — five nights per week — eight weeks

Inquiries about time should be made at the admissions office,
51 Teraulay Street, Phone: 967-1212 Ext. 508

An intensive course in keyboard typewriting, taught using the lumisonic system; designed to develop quickly a high keyboard typing speed.
Course Content: The first six hours will be spent learning the keyboard with emphasis on posture, good stroking, rhythm and correct fingering. Later lessons will develop speed and accuracy to a high degree using modern, programmed instructional techniques.

TYPING & OFFICE PRACTICE

TYP 901 **6:00 to 7:30 p.m. — five nights a week — ten weeks**

Campus T

Inquiries about cost should be made at the admissions office,
51 Teraulay Street, Phone: 967-1212 Ext. 508

This course is open to those students who have either successfully completed channel six in room B of the lumisonic course or to those who have a net speed of at least 25 w.p.m.
Prerequisite: 25 w.p.m. in typewriting.

Course Content: 30 hours of speed development; 25 hours of instruction in setting up material most common to all offices — letters with carbons, envelopes, tabulation and business forms; 20 hours of instruction in general office practice, giving the student a working knowledge of banking services, mail handling, mail classifications and duplicating processes. The office practice part will be given in the form of lectures and students are expected to take notes. Speed objective is 40 w.p.m.

DPMA CERTIFICATE PROGRAMS

The international Data Processing Management Association co-operates in conducting a series of courses designed for people already working in data processing. These courses lead to two different certificates: (i) the DPMA Certificate in Data Processing; and (ii) the DPMA Certificate as a Registered Business Programmer.

Prerequisites: Grade 12 or equivalent and either College courses in EDP or EDP experience.

Fees: In addition to the $60.00 fee for each course, there is a $10.00 national DPMA registration fee (one time only).

Information: For further inquiries, telephone 967-1212, Ext. 533.

(i) Courses Leading to the DPMA Certificate in Data Processing:

DATA PROCESSING EQUIPMENT

EDP 901 **Fee: $60.00, 54 hours, Campus T**
Tuesday, 6:00 to 9:00 p.m.

Studies in detail the components of computer hardware and software systems to help the student to plan their effective use in the design of business information systems.

FUNDAMENTALS OF COMPUTER SOFTWARE

EDP 904 **Fee: $60.00, 54 hours, Campus T**
Monday, 6:00 to 9:00 p.m.

Covers the software processes and techniques common to data processing, with demonstration on a computer.

PROGRAMMING LANGUAGES

EDP 907 **Fee: $60.00, 54 hours, Campus T**
Wednesday, 6:00 to 9:00 p.m.

Assists the student to develop skills in the use of programming techniques, and develops familiarity with several programming languages by teaching the student to write and execute his own programs.

PRINCIPLES OF MANAGEMENT

EDP 910 **Fee: $60.00, 54 hours, Campus T**
Monday, 6:00 to 9:00 p.m.

Analyzes many of the specialized skills and disciplines of modern management with which the data processor should have some familiarity.

DATA PROCESSING MANAGEMENT

EDP 913 **Fee: $60.00, 54 hours, Campus T**
Wednesday, 6:00 to 9:00 p.m.

Shows the skills required by DP managers to deal with problems within the data processing department, and to establish effective relations within the corporation.

BASIC ACCOUNTING

EDP 916 **Fee: $60.00, 54 hours, Campus T**
Tuesday, 6:00 to 9:00 p.m.

Studies the accounting principles of which data processors must have a working knowledge.

MATHEMATICAL TECHNIQUES

EDP 919 **Fee: $60.00, 54 hours, Campus T**
Thursday, 6:00 to 9:00 p.m.

Makes meaningful the methods and terminology of mathematics which may be encountered in business and data processing.

SYSTEMS DESIGN I

EDP 922 **Fee: $60.00, 54 hours, Campus T**
Wednesday, 6:00 to 9:00 p.m.

Studies the function of system (problem) investigation in preparation for presenting a design (solution) proposal. The student will become familiar with the role of the systems analyst.

SYSTEMS DESIGN II

EDP 925 **Fee: $60.00, 54 hours, Campus T**
Monday, 6:00 to 9:00 p.m.

Shows the development of the design solution and the effective utilization of design and control techniques. The student will become familiar with the role of the systems designer.

ON-LINE COMPUTING SYSTEMS

EDP 928 **Fee: $60.00, 54 hours, Campus T**
Wednesday, 6:00 to 9:00 p.m.

Gives knowledge of the general principles and special considerations of real-time and time sharing systems and enables the student to become involved in their design.

(ii) Courses Leading to the DPMA Certificate as a Registered Business Programmer; these courses are designed to prepare business programmers for the international RBP examination:

PRINCIPLES OF PROGRAMMING

EDP 950 **Fee: $60.00, 54 hours, Campus T**
Monday, 6:00 to 9:00 p.m.

Studies the main concepts of programming: instruction set, registers, loops, subroutines, programming techniques, checking efficiency, auxiliary memory, sorting and tables, using an assembly level programming language to illustrate.

META PROGRAMMING SYSTEMS

EDP 953 **Fee: $60.00, 54 hours, Campus T**

Tuesday, 6:00 to 9:00 p.m.

Studies the concepts of assemblers, compilers, report generators and operating systems with emphasis on methods by which the computer housekeeps, schedules, controls itself and interfaces with the programmer and user.

PROBLEM-ORIENTED LANGUAGES

EDP 956 **Fee: $60.00, 54 hours, Campus T**

Wednesday, 6:00 to 9:00 p.m.

Provides the student with the ability to write simple programs using COBOL, FORTRAN or BASIC with particular emphasis on COBOL and to understand the requirements of designing, writing and testing programs using either time-share terminals or batch processing techniques.

DATA PROCESSING SYSTEMS DESIGN AND ADVANCED COBOL

EDP 959 **Fee: $60.00, 54 hours, Campus T**

Thursday, 6:00 to 9:00 p.m.

Studies data organization, file design and data control, data base and data optimization with advanced COBOL techniques used to illustrate various access and program design solutions.

RECORDS

MICROFILM FOR YOUR BUSINESS

MICRO 900 **Fee: $45.00, 30 hours, Campus T**

Tuesday, 6:00 to 9:00 p.m.

An intensive course in the latest and most advanced microfilming techniques; demonstration of representative microfilm applications; advantages and disadvantages of various microforms; and objective analysis of equipment in terms of specific applications.

Electrical/Electronics Courses

ELECTRICAL CONSTRUCTION
EL 10 Electrical Construction Part I
EL 20 Electrical Construction Part II
EL 30 Electrical Construction Part III

APPRENTICE
EL 900 Electrical Apprentice Review

ESTIMATING
EL 901 Estimating for the Electrical Trade

REGULATIONS
EL 902 Hydro Electric Power Commission Regulations

DRAFTING
EL 903 Electrical Drafting — A.T.E.C. Program (Approved)

ELECTRICAL FUNDAMENTALS
EL 904 Lighting Fundamentals
EL 905 Electrical Fundamentals — A.T.E.C. Program (Approved)

ELECTRONIC CONTROLS
EL 40A Industrial Electronic Controls Part I
EL 40B Industrial Electronic Controls Part II
EL 40C Industrial Electronic Controls Part III

ELECTRONIC FUNDAMENTALS
ELTC 900 Electronic Fundamentals Part I
ELTC 901 Electronic Fundamentals Part II
ELTC 902 Electronic Fundamentals Part III
ELTC 903 Electronic Fundamentals Part IV (Television)
ELTC 904 Electronic Fundamentals (Transistors — Basic & Advanced) — A.T.E.C. Program (Approved)

COMPUTER PRINCIPLES
ELTC 906 (TAP 201) Logic
ELTC 906A (TAP 301) Computer Systems

TELEVISION
ELTC 909 Colour Television
ELTC 911 Advanced Television Service Techniques
ELTC 912 Video Tape Recorders Theory and Maintenance
ELTC 913 Cable Television Practice (Basic)
ELTC 915 Introductory ETV and Broadcast Maintenance

ACOUSTICS
ACOU 300 Introduction to Acoustics

ELECTRICAL/ELECTRONIC TECHNOLOGY

ELECTRICAL CONSTRUCTION — Part I

EL 10 **Fee: $30.00, 60 hours, Campus CL**

Monday and Wednesday, 7:00 to 10:00 p.m.

Prerequisite: Grade 10 or the equivalent.
Course Content: Ohm's Law, series circuits, combination circuits, two-wire distribution, line loss, power efficiency, wire calculations, batteries, magnetism, electro-magnetism, induction, three-wire distribution, Hydro Electric Power Commission Regulations, shop projects.

ELECTRICAL CONSTRUCTION — Part II

EL 20 **Fee: $30.00, 60 hours, Campus CL**

Tuesday and Thursday, 7:00 to 10:00 p.m.

Prerequisite: EL 10 or the equivalent.
Course Content: Electro-magnetism, induction, DC generators, generator set-up and operation, DC motor, motor operation and controls, Hydro-Electric Power Commission Regulations, shop projects.

ELECTRIC CONSTRUCTION — Part III

EL 30 **Fee: $30.00, 60 hours, Campus CL**

Tuesday and Thursday, 7:00 to 10:00 p.m.

Prerequite: EL 20 or the equivalent.
Course Content: A.C. fundamentals, vectors, single-phase transformers, single-phase motors, three-phase motors, three-phase transformers, auto transformers, Hydro-Electric Power Commission Regulations, shop projects.

ELECTRICAL APPRENTICE REVIEW

EL 900 **Fee: $30.00, 60 hours, Campus CL**

Monday and Wednesday, 7:00 to 10:00 p.m.

This is a special course for those apprentices who are in their final term and who expect to write the qualifying examination sometime within the year. The course will endeavour to cover theory, code and equipment over the entire area of apprentice training.

ESTIMATING FOR THE ELECTRICAL TRADE

EL 901 **Fee: $30.00, 60 hours, Campus CL**

Monday and Wednesday, 7:00 to 10:00 p.m.

Prerequisite: Journeyman electrician, fifth term apprentice, or equivalent.
Course Content: Plan analysis, take-off procedure, transferring and pricing, labor units, installation only projects, adjustments for working conditions, cable poles, pull boxes, labor cost variables, non-productive labor, incidental and direct job cost, electric heating loads.

HYDRO-ELECTRIC POWER COMMISSION REGULATIONS

EL 902 **Fee: $30.00, 60 hours, Campus CL**

Tuesday and Thursday, 7:00 to 10:00 p.m.

Prerequisite: Applicants must be at least fifth term apprentices, or journeymen.
Course Content: Authority, interpretations, use of the index, application of regulations.

ELECTRICAL DRAFTING (Basic) — A.T.E.C. Program (Approved)

EL 903 **Fee: $30.00, 60 hours, Campus CL**

Tuesday, 7:00 to 10:00 p.m.

Course Content: Lettering, use of instruments, linework, orthographic projection, dimensioning, sections, architect scale, isometric projection, sketching, electrical and electronic symbols, basic electrical circuit diagrams, transformers, relays, riser and block diagrams, residential wiring, illumination and electric heating.

LIGHTING FUNDAMENTALS

EL 904 **Fee: $30.00, 60 hours, Campus T**

Wednesday, 7:00 to 10:00 p.m.

Course Content: The course to begin with nature of light, the eye and the relationship between light and sight, lighting terms, laws and controls as well as light measurement and meters. A discussion of light sources, its production and characteristics, including incandescent, gaseous discharge and fluorescent lamps. Luminaire data to consist of general, photometric, electrical and mechanical characteristics. Illumination design including zonal-cavity calculations for industrial buildings, offices and schools, store lighting, exterior residential lighting. Cost analysis to include lamp economics, lighting system ownershp and operating costs.

ELECTRICAL FUNDAMENTALS — A.T.E.C. Program (Approved)

EL 905 **Fee: $30.00, 60 hours, Campus T**

Monday, 7:00 to 10:00 p.m.

Prerequisite: Math 100.
Course Content: Basic electrical concepts, simple D.C. circuits, power, magnetism, electro-magnetism, magnetic circuits, D.C. measuring instruments, A.C. measuring instruments, electrical measurements, induction, capacity, alternating current, resistance, impedance, power in A.C. circuits.

INDUSTRIAL ELECTRONIC CONTROLS — Part I

EL 40A **Fee: $30.00, 60 hours, Campus CL**

Thursday, 7:00 to 10:00 p.m.

Prerequisite: Applicants must be fifth term apprentices, journeymen electricians, or equivalent.
Course Content: Review of basic principles, study of AC theory, vector analysis, introduction to electronics, types of electronic tubes, amplifiers, tube circuitry, and applications, phantrons, thyratrons, solid state devices and shopwork.
Instruction will consist of 40% theory and 60% shopwork.

INDUSTRIAL ELECTRONIC CONTROLS — Part II

EL 40B **Fee: $30.00, 60 hours, Campus CL**

Monday, 7:00 to 10:00 p.m.

Prerequisite: EL 40A
Course Content: Power supplies, principle of timers, welding timers, current control with gas tubes, solid state devices, thyratron contactors, ignitron contactors, phase shifting, welder heat control, resistance welders, sequence weld timers, synchronous weld timers, shopwork.

INDUSTRIAL ELECTRONIC CONTROLS — Part III

EL 40C **Fee: $30.00, 60 hours, Campus CL**

Thursday, 7:00 to 10:00 p.m.

Prerequisite: EL 40B.
Course Content: Photoelectric relays, heat controls, light dimming controls, principle of speed and voltage regulators, speed regulators for small DC

motors, voltage control for DC and AC generators, single phase and polyphase power rectifiers, oscillators, inverters, induction heaters, dielectric heaters, high speed light relays, register control, servomechanisms, shopwork.

ELECTRONIC FUNDAMENTALS — Part I

ELTC 900 **Fee: $30.00, 60 hours, Campus T**

Monday, 7:00 to 10:00 p.m.

Course Content: Energy; electricity; resistors and conductors; cells and batteries; voltage; current and resistance; Ohm's law; electric power; D.C. circuits; Kirchoff's law; capacitors; electromagnets; inductors and induction; Lenz's law; A.C. source; vectors; reactance; impedance; resonance; A.C. power; electric meters; transformers, resonant circuits; A.C. circuits.

ELECTRONIC FUNDAMENTALS — Part II

ELTC 901 **Fee: $30.00, 60 hours, Campus T**

Tuesday, 7:00 to 10:00 p.m.

Prerequisite: Successful completion of ELTC 900.

Course Content: Transducers, vacuum tube operation; vacuum tube characteristics; basic power supplies; electronic meters; cathode ray tubes; oscilloscope; power transfer; impedance matching; atomic structure of semiconductors; biode junction; avalanche and Zener breakdown; junction transistors; transistor amplifiers, coupling methods; power amplifiers; transistor oscillators; semi-conductors data sheets.

ELECTRONIC FUNDAMENTALS — Part III (Radio)

ELTC 902 **Fee: $30.00, 60 hours, Campus T**

Thursday, 7:00 to 10:00 p.m.

Prerequisite: Successful completion of ELTC 901.

Course Content: Communications systems; amplitude modulation; frequency modulation; demodulation and detection; troubleshooting and maintenance; test equipment; troubleshooting radio receivers; servicing techniques; servicing automobile receivers; AM/FM receivers; radio receiver alignment; sound systems; record changers-pickups; tape recorders; RC circuits; LR circuits; blocking oscillators; multivibrators.

ELECTRONIC FUNDAMENTALS — Part IV (Television)

ELTC 903 **Fee: $30.00, 60 hours, Campus T**

Thursday, 7:00 to 10:00 p.m.

Prerequisite: Successful completion of ELTC 902.

Course Content: Sawtooth generators; flip-flop; binary counters; decimal counters; clippers; limiters; shapers; triggering circuits; gating circuits; television system requirements; tuner circuits; VHF tuners; video IF section; video amplifiers; picture tubes; sound channels; sync signals; sync circuits and DC restorers; sweep oscillators; sweep amplifiers; high voltage supplies; AFC circuits; automatic gain control; low voltage supplies; UHF tuners; antennas; transmission lines; complete television receivers; servicing techniques.

ELECTRONIC FUNDAMENTALS (Transistors — Basic and Advanced)

A.T.E.C. Program (Approved)

ELTC 904 **Fee: $30.00, 60 hours, Campus T**

Wednesday, 7:00 to 10:00 p.m.

Prerequisite: Thorough knowledge of electronic fundamentals and radio receiver circuitry.

Course Content: Introduction to modern electron theory, semi-conductor physics, junction transistors, transistor characteristics, transistor amplifiers, transistor oscillators, transistor radio receivers, transistors in television, receivers, transistors in electronic circuits, transistor developments, servicing transistor circuits. Laboratory work will form part of the course.

LOGIC

ELTC 906 (TAP 201) **Fee: $30.00, 45 hours, Campus T**

Thursday, 7:00 to 10:00 p.m.

October 1973 to January 1974

Prerequisite: ELTC 904 or equivalent and background knowledge of transistor theory.

Course Content: Logic circuits; register circuits; Boolean algebra; arithmetic circuits; codes and error detection; A/D and D/A conversion, laboratories.

COMPUTER SYSTEMS

ELTC 906A (TAP 301) **Fee: $30.00, 45 hours, Campus T**

Thursday, 7:00 to 10:00 p.m.

February 1974 to May 1974

Prerequisite: TAP 201 or equivalent.

Course Content: Basic programming concepts; machine language, computer organization, order code, programming: assembler, editor, debugging; computer peripherals, core, drum, disc, magnetic tape, cards, paper tape, printer, data transfer; interfacing; I/O bus., peripheral controls; laboratory work, programs in assembler language, construction of interface units.

COLOUR TELEVISION

ELTC 909 **Fee: $30.00, 60 hours, Campus T**

Thursday, 7:00 to 10:00 p.m.

Prerequisite: Sound knowledge of black and white television circuitry. There will be a short qualifying test at the time of registration.

Course Content: Principles of the colour TV system, colour receiver circuits: RF and IF circuits, video, sync, voltage supply circuits, band pass amplifier, colour sync, colour killer circuits, colour demodulation, matrix section, colour picture tube and associated circuits; servicing the colour receiver, set up procedure, aligning the colour receiver, trouble shooting. Current models of receivers will be discussed and demonstrated.

ADVANCED TELEVISION SERVICE TECHNIQUES

ELTC 911 **Fee: $30.00, 60 hours, Campus T**

Tuesday, 7:00 to 10:00 p.m.

Prerequisites: Since technicians who successfully complete this course will be accredited by the Electronic Industries Association, applicants must be engaged full time in television servicing. Accordingly, there will be a short

qualifying test at registration.
Course Content: This course deals with modern TV fault-finding techniques based on increased knowledge of circuit operation and proper use of test equipment.

VIDEO TAPE RECORDERS THEORY AND MAINTENANCE

ELTC 912 **Fee: $30.00, 60 hours, Campus T**

Tuesday, 7:00 to 10:00 p.m.

Prerequisite: Fundamental knowledge of electronics.
Course Content: An introduction to the theory of video tape recording (VTR) principles, the magnetic recording process, tape magnetization, single track, multitrack, vertical and slanted tracks (helical scans), signal modulation and demodulation systems, pre-emphasis and de-emphasis requirements, FM signal differentiation, low pass filter, white clipper, limiter, d-c restoration, servo-operation, basic editing and color signal recording principles.
Demonstration of specific recorders by company representatives of major one-half and one inch VTR manufacturers.

CABLE TELEVISION PRACTICE (Basic)

ELTC 913 **Fee: $30.00, 60 hours, Campus T**

Monday and Wednesday, 7:00 to 10:00 p.m.

Prerequisite: Basic cable television practice or recommendation of employer.
Course Content:

1. Introduction to television. Conversion of light to an electronic signal. Use of the sync signal and derivation of composite waveform. Comparison of black and white and colour. Modulation of the RF carrier. Channel allocations. Propagation and antennas. Elements of the receiver and reproduction.
2. Introduction to cable distribution. The basics of antenna site location, system layout, amplifiers, splitters, tap-off devices, subscriber's drops.
3. Co-axial cable characteristics, attenuation, impedance, loop resistance, requirements for impedance matching.
4. Decibels, VSWR, return loss, and reflections.
5. Amplifiers, general description, tube type, transistorized, wideband, single-channel, main line, distribution and extender. Power feed arrangements for transistorized amplifiers.
6. Line construction techniques: clearances, safety procedures, cable handling, connector splices, etc.
7. Tap-offs, subscriber's drop and apartment house wiring.
8. Installation of amplifier housings, amplifiers and passive devices.
9. Service calls and customer relations.
10. Introduction to fault-finding, using field strength meter and test TV set.
11. Fault diagnosis: adjacent channel and co-channel interference, cross-modulation, ghosts and noise.
12. Transistorized equipment and cable powering — basic do's and don'ts.

INTRODUCTORY ETV AND BROADCAST MAINTENANCE

ELTC 915 **Fee: $30.00, 60 hours, Campus T**

Monday, 7:00 to 10:00 p.m.

Prerequisite: Fundamental knowledge of electronics.
Course Content: Theory and techniques as applicable to closed television

circuit (CTVC) operations found in broadcast studies, educational television (ETV), community cable television (CCTV) centers, and related fields. VU-meters, audio distribution system and amplifier testing, equalization, turntables, (T.T.), magnetic recording and playback systems and equipment evaluation, audio consoles, intercommunication (I.C.) and public address (P.A.) requirements.

Video distribution systems and amplifiers, monochrome and color signal (NTSC) evaluation, video monitors, synchronization methods, switchers and effects generators, studio and telecine cameras, camera tubes, 16 mm telecine film projectors, basic test equipment and system evaluation, measurement techniques.

A field trip to a major T.V. broadcast center will be scheduled toward the end of the course.

INTRODUCTION TO ACOUSTICS

ACOU 300 **Fee: $30.00, 60 hours, Campus T**

Tuesday, 7:00 to 10:00 p.m.

Review: Mass & weight: velocity, acceleration, momentum, force & pressure, work energy & power, elasticity; heat: temperature, gas laws, humidity & relative humidity; characteristics of wave & wave motion: interference, resonance, spectra; fluids: pressure in fluids, flow of fluids, Venturi principle, Bernoulli principle.

New Concepts: Emission & transmission of sound waves; velocity of sound; change in velocity of sound with change in temperature and humidity; physiology of the human ear; physiology of the speech mechanism; hearing speech & hearing loss; the speech chain; psychological effects of sound and noise; sound and music; measurement of sound and noise.

Engineering Technology Courses

INSTRUMENTATION

INST 100	Measuring Principles—A.T.E.C. Program (Approved)
INST 130/131	Instrumentation
INST 900	Basic Instrumentation Electronics
INST 101	Electronic Instrumentation
INST 203	Computer Control Principles I
INST 200	Automatic Control Principles I

WELDING

WELD 900	Welding I
WELD 901	Welding II
WELD 902	Welding Pre-Certification "A" (C.W.B.)
WELD 903	Welding Pre-Certification "B"
WELD 904	Pipe Welding "A"—Uphill Arc Welding
WELD 905	Pipe Welding "B"—Downhill Arc Welding
WELD 906	Pipe Welding "C"—T.I.G./M.M.A.
WELD 907	Pipe Welding "D"—Oxy-acetylene
WELD 908	Welding Maintenance
WELD 909	Metalwork—Ornamental
WELD 910	T.I.G. and M.I.G. Welding—Aluminum & Stainless Steel
WELD 911	Weld Testing and Inspection

DRAFTING & BLUEPRING READING

ENDR 105	Technical Drawing I—A.T.E.C. Program (approved)
ENDR 214	Technical Drawing II—A.T.E.C. Program (approved)
ENDR 104	Process Piping Drafting—A.T.E.C. Program (approved)
ENDR 351	Materials Handling & Plant Layout Design—Part I
ENDR 271	Plate & Structural Layout
ENDR 274	Blueprint Reading for Machine Trades
ENDR 272	Blueprint Reading for the Welding Trade
ENDR254/261	Blueprint Reading for Millwrights—Part I
ENDR261/257	Blueprint Reading for Millwrights—Part II

TOOL DESIGN

ENDR 500	Jig and Fixture Design 1—A.T.E.C. Program (approved)
ENDR 501	Jig and Fixture Design 2—A.T.E.C. Program (approved)
ENDR 520	Die Design 1—A.T.E.C. Program (approved)
ENDR 521	Die Design 2—A.T.E.C. Program (approved)
ENDR 507	Injection Mould Design—A.T.E.C. Program (approved)
ENDR 523	Tool Design Theory

GENERAL INTEREST

ENDR 552	History of Engineering Ideas
ENDR 553	Drawing & Sketching for Hobbyists

MACHINE SHOP

MACH 140A & B	Measurement & Layout
MACH 140C	Benchwork
MACH 141A	Lathework (Basic)
MACH 141B	Lathework (Intermediate)
MACH 141C	Lathework (Advanced)
MACH 142A	Milling
MACH 142B	Milling

MACH 204	Diemaking 1—A.T.E.C. Program (approved)
MACH 901	Mouldmaking
MACH 902	Numerical Control
MACH 904	Electrical Discharge Machine E.D.M.
MACH 905	Numerical Control
MACH 906	General Machine Shop
MILL 900A	Mechanical Maintenance—Part 1
MILL 900B	Mechanical maintenance—Part 2

PLASTICS

PL 125	Thermoset Materials—Processes & Design
PL 900	Forming and Fabricating of Thermoplastics
PL 901	Introduction to Plastics
PL 902	Extrusion
PL 903	Designing with Plastics
PL 904	Compounding and Colouring
PL 905	Injection Moulding
PL 906	Blow Moulding

CHEMISTRY

CHEM 901	Coatings Technology

ULTRASONIC TESTING

TEST 900	Ultrasonic Testing I
TEST 901	Eddy Current Testing I
TEST 902	Ultrasonic Testing II

INDUSTRIAL RADIOGRAPHY

TEST 903	Industrial Radiography I
TEST 904	Industrial Radiography II

NONDESTRUCTIVE TESTING

TEST 905	Nondestructive Testing I
TEST 906	Nondestructive Testing II

EQUIPMENT SERVICING

BES 900	Business Equipment Servicing Part I
BES 901	Business Equipment Servicing Part II

WATCHMAKING

WATCH 900	Electric Watch Service
WATCH 901	Watchmaking
WATCH 902	Watchmaking (Advanced)
WATCH 903	Basic Clock Repairing
WATCH 904	Practical Watch Adjustment

PROSTHETICS

PROS 900	Above Knee Amputations
PROS 901	Below Knee Amputations
PROS 902	Basic & Functional Anatomy

INSTRUMENTATION

The Instrumentation Department will offer a series of part-time courses to enable those employed in the instrumentation field to upgrade their knowledge. Part-time courses may be used as credits towards the certificate which is obtained through full-time study.

MEASURING PRINCIPLES — A.T.E.C. Program (Approved)

INST 100 **Fee: $30.00, 60 hours, Campus K**

Thursday, 7:00 to 10:00 p.m.

Course Content: C.G.S., M.K.S., F.P.S., systems of units, dimensional analysis; theory and construction of devices, mechanical — pneumatic methods for the measurement of pressure, vacuum, temperature, flow, viscosity, specific gravity, and level.

INSTRUMENTATION

INST 130/131 **Fee: $30.00, 60 hours, Campus K**

Wednesday, 7:00 to 10:00 p.m.

Prerequisite: Applicant should be employed in instrumentation or an associated field.

Course Content: Applied physics, pneumatic and electronic instruments, control theory and systems applications, final control elements including valve sizing, analysis equipment including speed, pH, humidity chromatography.

BASIC INSTRUMENTATION ELECTRONICS

INST 900 **Fee: $30.00, 60 hours, Campus K**

Tuesday, 7:00 to 10:00 p.m.

This course is designed primarily for pneumatic instrumentation personnel who wish to study the basic fundamentals of electronic instrumentation. The course consists of lectures, experiments and practical applications.

Course Content: Ohm's Law, series and parallel circuits, test instruments, basic electron tube and transistor theory, thermocouples, potentiometric devices, wheatstone bridge, radiation and optical pyrometry, calibration and trouble-shooting techniques.

ELECTRONIC INSTRUMENTATION

INST 101 **Fee: $30.00, 60 hours, Campus K**

Tuesday, 7:00 to 10:00 p.m.

Prerequisite: A.C. & D.C. fundamentals.

Course Content: Application and calibration of electronic sensing and transmitting devices, transmission systems, converters, recorders, and controllers.

COMPUTER CONTROL PRINCIPLES I

INST 203 **Fee: $30.00, 60 hours, Campus K**

Monday, 7:00 to 10:00 p.m.

Prerequisite: Mathematics and electronic background.

Course Content: Introduction to binary concept, principles of digital logic, Boolean algebra, the rules for logical manipulation, digital subsystems, digital systems.

AUTOMATIC CONTROL PRINCIPLES I

INST 200 **Fee: $30.00, 60 hours, Campus K**

Thursday, 7:00 to 10:00 p.m.

Prerequisite: Measuring principles, electronic instrumentation or previous instrumentation training.

Course Content: Fundamental elements of instruments, measuring means, controlling means, concept of a control loop, loops in block and schematic diagrams. Types of controllable response, control modes, controller alignment procedures, dynamic characteristics of a control loop.

WELDING

WELDING I

WELD 900 **Fee: $35.00, 60 hours, Campus K**

Tuesday or Thursday, 7:00 to 10:00 p.m.

This is a general course designed to teach the fundamentals of oxyacetylene and electric arc welding.

Prerequisite: Ability to understand English well enough to absorb instruction.

Course Content: Basic principles of oxyacetylene and electric are welding, safety precautions, types and uses of various oxyacetylene flames, types and uses of various rods and electrodes, braze welding, use of fluxes, arc welding machine controls, practice welding in the flat position using oxyacetylene and electric arc equipment.

WELDING II

WELD 901 **Fee: $35.00, 60 hours, Campus K**

Wednesday, 7:00 to 10:00 p.m.

This is a general course designed to supplement WELD 900.

Prerequisite: Successful completion of Welding I or equivalent experience.

Course Content: Theory of alternating and direct current, polarity, arc blow. Shielded arc electrodes, classification, selection of electrodes. Edge preparations, joint design, weld faults, manufacture and storage of oxygen and acetylene. Basic welding metallurgy, control of distortion, testing of welds. Practice welding in all positions using oxyacetylene and electric arc equipment.

WELDING PRE-CERTIFICATION "A" (C.W.B.)

WELD 902 **Fee: $60.00, 60 hours, Campus K**

Monday, 7:00 to 10:00 p.m.

This is a course designed to improve the technical skills of candidates who are preparing to take the Canadian Welding Bureau all position metallic arc qualification test.

Prerequisite: Successful completion of WELD 900 and WELD 901 or equivalent experience.

Course Content: Safety precautions, function of electrode coatings, electrode selection and application. Edge preparation, weld faults, welding techniques, setting up equipment. Testing of welds and operators, codes. Practice welding of fillet and butt joints in all positions, using cellulose and low hydrogen electrodes.

NOTE: The College is not authorized to issue qualification cards on behalf of the Canadian Welding Bureau. A certificate from the George Brown College will be issued upon successful completion of this program.

WELDING PRE-CERTIFICATION "B"

WELD 903 **Fee: $60.00, 60 hours, Campus K**
Thursday, 7:00 to 10:00 p.m.

This is a course designed to improve the technical skills of candidates who are preparing to take the Boiler Inspection Branch (A.S.M.E.) all position metallic arc qualification test.
Prerequisite: Successful completion of WELD 900 and WELD 901 or equivalent experience.
Course Content: Safety precautions, function of electrode coatings, electrode selection and application. Edge preparation, weld faults, welding techniques, setting up of equipment. Testing of welds and operators, codes. Practice welding of butt joints in all positions, using cellulose and low hydrogen electrodes. Root and face guided bond test specimens will be taken from butt welds in all positions.
NOTE: Arrangements can be made to have the final practical test inspected by the Department of Labour who will issue the appropriate certification if the test conforms to code requirements. A slight additional fee is involved. In addition, the George Brown College certification will be issued to all successful candidates.

PIPE WELDING "A" — UPHILL ARC WELDING

WELD 904 **Fee: $60.00, 60 hours, Campus K**
Thursday, 7:00 to 10:00 p.m.

This is a course designed to teach the fundamentals of the uphill method of pipe welding, using arc welding equipment and low hydrogen arc welding electrodes.
Prerequisite: (1) Successful completion of WELD 900, WELD 901, and WELD 902 or WELD 903 or (2) Boiler Inspection Branch (A.S.M.E.) or Canadian Welding Bureau certification for all positions.
Course Content: Pipe specifications, preparation of pipe, recommended fits and tolerances. Electrode selection and classification. Testing of welds and operators, codes. Practice welding, using the uphill welding technique and low hydrogen arc welding electrodes.
NOTE: Arrangements can be made to have the final practical test inspected by the Department of Labour who will issue the appropriate certificate if the test conforms to code requirements. A slight additional fee is involved. In addition, the George Brown College certification will be issued to all successful candidates.

PIPE WELDING "B" — DOWNHILL ARC WELDING

WELD 905 **Fee: $60.00, 60 hours, Campus K**
Monday, 7:00 to 10:00 p.m.

This course is designed to teach the fundamentals of the downhill method of pipe welding, using arc welding equipment and cellulose arc welding electrodes.
Prerequisite: (1) Successful completion of WELD 900, WELD 901 and WELD 902 or WELD 903 or (2) Boiler Inspection Branch (A.S.M.E.) or Canadian Welding Bureau certification for all positions.
Course Content: Pipe specifications, preparation of pipe, recommended fits and tolerances. Electrode selection and classification. Testing of welds and operators, codes. Practice welding using the downhill welding technique and cellulose arc welding electrodes.

PIPE WELDING "C" — T.I.G./M.M.A.

WELD 906 **Fee: $70.00, 60 hours, Campus K**
Wednesday, 7:00 to 10:00 p.m.

This is a course designed to teach the fundamentals of the uphill method of pipe welding, using the T.I.G. process for the root pass and low hydrogen electrodes on succeeding passes.
Prerequisite: (1) Successful completion of WELD 900, WELD 901 and WELD 903 or (2) Possession of Boiler Inspection Branch (A.S.M.E.) or Canadian Welding Bureau certification for all positions and proficiency in use of low hydrogen electrodes.
Course Content: Pipe specifications, preparation of pipe, recommended fits and tolerances. Electrode classification and selection. Testing of welds and operators, codes. Setting up and adjusting T.I.G. equipment. Tungsten electrodes, shielding gases. Practice welding, using the T.I.G. process for the root pass and low hydrogen electrodes for succeeding passes, using carbon steel pipe.
NOTE: Arrangements can be made to have the final practical test inspected by the Boiler Inspection Branch who will issue the appropriate certification if the test conforms to code requirements. A slight additional fee is involved. In addition, the George Brown College certification will be issued to all successful candidates.

PIPE WELDING "D" — OXYACETYLENE

WELD 907 **Fee: $60.00, 60 hours, Campus K**
Monday, 7:00 to 10:00 p.m.

This is a course designed to teach the fundamentals of pipe welding, using the oxyacetylene process.
Prerequisite: (1) Successful completion of WELD 900 and WELD 901 or (2) a minimum of six months continuous oxyacetylene welding experience.
Course Content: Pipe specifications, pipe fittings, preparation of pipe. Types and sizes of welding rods, flame adjustments, safety precautions. Layout of pipe and templates. Testing of welds and operators, codes. Practice welding of 2″, 4″ and 6″ diameter pipe in all positions, manual oxyacetylene cutting.
NOTE: Arrangements can be made to have the final practical test inspected by the Boiler Inspection Branch who will issue the appropriate certification if the test conforms to code requirements. A slight additional fee is involved. In addition, the George Brown College certification will be issued to all successful candidates.

WELDING — MAINTENANCE

WELD 908 **Fee: $35.00, 60 hours Campus K**
Tuesday, 7:00 to 10:00 p.m.

This is a course designed to teach the fundamentals of oxyacetylene and electric arc welding and is specially designed to meet the needs of maintenance personnel.
Prerequisite: A basic knowledge of welding would be an asset.
Course Content: Maintenance of oxyacetylene and electric arc auxiliary equipment, safety precautions. Techniques involved in the joining of a variety of metals, preheat and post-heat procedures. Demonstrations and practice in

the joining of cast iron, stainless steel, and aluminum, silver brazing, hard facing and building up, oxyacetylene and arc cutting, welding of tubing and pipe to plate, positional welding.

METALWORK — ORNAMENTAL

WELD 909 **Fee: $30.00, 60 hours, Campus K**

Tuesday, 7:00 to 10:00 p.m.

This is a course designed for the hobbyist, and provides a general knowledge of the machines, tools, and materials essential to the art of ornamental metal work.

Course Content: Fundamentals of welding, safety precautions, selection of materials, fundamentals of design. Use of hand tools, methods of twisting, forming and fastening metals, forming of scrolls. Surface decoration, surface finishing, use of metal working equipment. Practical shop work consisting of the fabrication of various types of ornamental metal projects.

T.I.G. AND M.I.G. WELDING — ALUMINUM & STAINLESS STEEL

WELD 910 **Fee: $70.00, 60 hours, Campus K**

Monday, 7:00 to 10:00 p.m.

This is a course designed to teach the fundamentals of manual tungsten inert gas (T.I.G.) welding and semi-automatic metal inert gas (M.I.G.) welding to persons who are qualified oxyacetylene or electric arc welders.

Prerequisite: Successful completion of WELD 900 and WELD 901 or a minimum of six months continuous experience in oxyacetylene or arc welding.

Course Content: Setting up and adjusting T.I.G. and M.I.G. equipment. Types, sizes and uses of tungsten electrodes, types and sizes of filler and aluminum, using T.I.G. and M.I.G. equipment.

WELD TESTING AND INSPECTION

WELD 911 **Fee: $30.00, 60 hours, Campus K**

Thursday, 7:00 to 10:00 p.m.

This course is designed to teach the basic fundamentals of weld testing and inspection, and consists of lectures, demonstrations, and laboratory work. Candidates may supplement this course with Blueprint Reading for the Welding Trade.

Prerequisite: Candidates should have a general knowledge of welding.

Course Content: Inspection duties, welding terms and processes. Qualification tests for welders. Demonstrations of incorrect welding techniques, using various welding processes to illustrate the development of weld faults, heat-treatment. Preparation and testing of weld specimens, using the following standard destructive and non-destructive methods: visual, tensile, hardness, fracture, bend, ultrasonic, magnetic particle, microscopic, fluorescent penetrant and dye penetrant. Interpretation of radiographs.

DRAFTING AND BLUEPRINT READING

TECHNICAL DRAWING I — A.T.E.C. Program (Approved)

ENDR 105 **Fee: $30.00, 60 hours, Campus CL**

Thursday, 7:00 to 10:00 p.m.

An introduction to drawing office practice, including instruction in the use of instruments, lettering, linework, applied geometry, third angle orthographic

projection, oblique and isometric drawings, freehand sketching, conventions and symbols, sections, tolerances, limits and fits, surface roughness, gears, cams, pipe fittings & layouts, electrical drawings & symbols and detail, layout and assembly drawings.

TECHNICAL DRAWING II — A.T.E.C. Program (Approved)

ENDR 214 **Fee: $30.00, 60 hours, Campus CL**

Thursday, 7:00 to 10:00 p.m.

This course is a continuation of Technical Drawing I. The topics included are treated in greater depth.

Prerequisite: ENDR 105 or equivalent.

Course Content: Bearing types, lubrication, selection. Gear types, definitions, formulae, gear trains, application & drawings. Cam types, followers, motions, layouts, displacement diagrams, drawings. Selection of fasteners, fittings, springs and other standard components. Limits and fits, unilateral and bilateral tolerances, classes of fits, geometric tolerances, standard notes & symbols. Surface roughness, engineering materials and production methods. Jigs, fixtures & gauges, practical drawing applications. Details, design layouts, assemblies and subassemblies.

PROCESS PIPING DRAFTING — A.T.E.C. Program (Approved)

ENDR 104 **Fee: $30.00, 60 hours, Campus CL**

Wednesday, 7:00 to 10:00 p.m.

The purpose of the course is to introduce to the draftsman, the specialized techniques of process piping drawing.

Prerequisite: Basic knowledge of mechanical drafting, ENDR 105 or equivalent.

Course Content: Introduction to orthographic & pictorial piping drawing using single & double line representation and including piping symbols, fittings, valves, piping standards and classifications, schematics and flow diagrams. Materials, fabrication & simplified piping layout.

MATERIALS HANDLING AND PLANT LAYOUT DESIGN — Part I

ENDR 351 **Fee: $30.00, 60 hours, Campus CL**

Thursday, 7:00 to 10:00 p.m.

The aim of the course is to provide the student with a basic knowledge of modern packaging and handling techniques in relationship to efficient plant layout.

Prerequisite: Basic knowledge of mechanical drafting, ENDR 105 or equivalent.

Course Content: History of materials handling, principles of good materials handling, flow charts and diagrams, plant layout, horizontal and vertical movement of materials, modern packaging techniques, case histories of materials handling layout, safety aspect and reliability of equipment, selection of equipment, maintenance of equipment, use of engineering catalogues.

PLATE AND STRUCTURAL LAYOUT

ENDR 271 **Fee: $30.00, 60 hours, Campus CL**

Wednesday, 7:00 to 10:00 p.m.

Course Content: Plane geometrical constructions and terminology, orthographic projection, principal and auxiliary views, dimensioning systems. Basic

principles of descriptive geometry; true length of lines, true shape of planes, true angles, revolutions and intersection of planes. Developments by parallel lines, radial line and triangulation methods. Structural shapes, symbols and specifications, layout and development of industrial projects involving plate and structural shapes, fabricating methods, shop notes and bills of material.

BLUEPRINT READING FOR MACHINE TRADES

ENDR 274 **Fee: $30.00, 60 hours, Campus CL**

Tuesday, 7:00 to 10:00 p.m.

The aim of this course is to provide tradesmen with a basic understanding of blueprint reading.

Course Content: A study of orthographic and pictorial drawing systems. Freehand sketching: sketches of machine parts using multiview, isometric and oblique projections. Blueprint reading: The interpretation of industrial blueprints including notes, specifications, dimensions, tolerances, & surface finish. The use of auxiliary views, sectional views and developments. Common machine details including threads and fasteners, gears, cams, keys, and taper pins as specified on detail working drawings. Sub-assembly and final assembly drawings.

BLUEPRINT READING FOR THE WELDING TRADE

ENDR 272 **Fee: $30.00, 60 hours, Campus CL**

Monday 7:00 to 10:00 p.m.

The aim of this course is to provide welders with a basic understanding of blueprint reading.

Course Content: A study of orthographic and pictorial drawing systems. Freehand sketching; sketches of welded parts using multiview projection, and basic dimensioning principles. Blueprint reading: a study of welded detail and assembly blueprints, including auxiliary views, scale drawings, shop notes, dimensions, tolerances, small tool operations, sectional views and conventional practices. The interpretation of welding symbols as specified by the Canadian Welding Society. Conventional practices as used on welding and fabrication blueprints including structural shapes and their symbols, plate specifications, bills of material and general shop notes and specifications.

BLUEPRINT READING FOR MILLWRIGHTS—Part 1

ENDR 254/261 **Fee: $30.00, 60 hours, Campus CL**

Tuesday, 7:00 to 10:00 p.m.

The purpose of this course is to provide tradesmen with a basic understanding of blueprint reading.

Course Content: Basic drafting principles; instruments, line work, pencil drawing techniques. The three-view drawing system. Principal views and single auxiliary views. Main types of commonly used sectional views. Freehand engineering sketching of parts. Basic dimensioning principles and the theory of manufacturing tolerances. Surface finishes; symbols used, surface gauge plates, applications to products. Screw threads; specifications, basic forms, how to show on drawings. The study of blueprints typical of the trade.

BLUEPRINT READING FOR MILLWRIGHTS — Part 2

ENDR 261/257 **Fee: $30.00, 60 hours, Campus CL**

Monday, 7:00 to 10:00 p.m.

This course is a continuation of ENDR 254/261.
Prerequisite: Part 1 — ENDR 254/261.
The course is intended for tradesmen who wish to obtain a greater knowledge of trade blueprint reading.
Course Content: Advanced studies of blueprints; auxiliary views, sectional views, dimensioning systems, classes of machine fits and tolerances; manufacturing processes including casting, forging, moulds, machining, and material specifications; fastening devices, both permanent and removable and their specifications; welding symbols commonly used as per Canadian Welding Society Standards; structural steel symbols, dimensioning techniques and standard shapes; structural layouts using symbols and bill of material, piping drawings, symbols, piping code, line diagrams in single line and isometric, standard hardware used in piping installations, theory of drives, spur & bevel gearing, couplings, "V" belts, hydraulics, use of industrial catalogues, the study of shop and field installation drawings.

TOOL DESIGN PART-TIME COURSES

A part-time student may study individual courses or he may complete a prescribed program of courses as credits toward a diploma as a tool design technician. Details of the program are shown in the 1973/74 day calendar and in the tool design technician brochure. Some credits may be granted to mature students on the basis of previous education or experience. Inquiries should be made at the admissions office, 37 Dartnell Avenue. Phone: 967-1212, ext. 402 or 404.
Prerequisite: Grade 12, preferably with machine shop or drafting option or equivalent industrial experience. Students without previous drafting experience should register for Technical Drawing 1, ENDR 105.

JIG AND FIXTURE DESIGN 1 — A.T.E.C. Program (Approved)

ENDR 500 **Fee: $45.00, 90 hours, Campus CL**

Thursday, 7:00 to 10:00 p.m.

Course Content: Freehand sketching and machine drafting of basic jig and fixture designs, emphasizing current production methods and organization.

JIG AND FIXTURE DESIGN 2 — A.T.E.C. Program (Approved)

ENDR 501 **Fee: $45.00, 90 hours, Campus CL**

Thursday, 7:00 to 10:00 p.m.

Prerequisite: ENDR 105.
Course Content: Freehand sketching and machine drafting of advanced jig and fixture designs, emphasizing current production methods and organization.

DIE DESIGN 1 — A.T.E.C. Program (Approved)

ENDR 520 **Fee: $45.00, 90 hours, Campus CL**

Thursday, 7:00 to 10:00 p.m.

Prerequisite: ENDR 105.
Course Content: Freehand sketching and machine drafting of basic blanking, piercing, cut-off and bending dies.

DIE DESIGN 2 — A.T.E.C. Program (Approved)

ENDR 521 **Fee: $45.00, 90 hours, Campus CL**
Thursday, 7:00 to 10:00 p.m.

Prerequisite: ENDR 520.

Course Content: Freehand sketching and machine drafting of advanced blanking, piercing and bending dies. Introduction to basic draw dies.

INJECTION MOULD DESIGN — A.T.E.C. Program (Approved)

ENDR 507 **Fee: $45.00, 90 hours, Campus CL**
Monday, 7:00 to 10:00 p.m.

Prerequisite: Technical Drawing ENDR 105 or equivalent.

Course Content: Principles of injection mould design involving freehand sketching and some design problems.

TOOL DESIGN THEORY

ENDR 523 **Fee: $45.00, 60 hours, Campus CL**
Monday, 7:00 to 10:00 p.m.

Involves theory of tool design only. Various areas of manufacturing engineering are covered, e.g., cutting tool design, process planning, turret and auto lathe layouts, economics, location and clamping theory. Practical drafting will be minimal.

GENERAL INTEREST

HISTORY OF ENGINEERING IDEAS

ENDR 552 **Fee: $25.00, 20 hours, Campus CL**
Wednesday, 7:00 to 9:00 p.m.

The origins and development of the ideas which contributed to many of our present day machines. Ancient ideas of Archimedes, da Vinci, Bacon and others and their influence on modern engineering. Origins of threads, gears, link mechanisms, cams and their applications through the years to the inventions of Watt, Stephenson, Bell and others. Future applications for unused ideas of the past.

DRAWING AND SKETCHING FOR HOBBYISTS

ENDR 553 **Fee: $25.00, 20 hours, Campus CL**
Wednesday, 7:00 to 9:00 p.m.

Whether you wish to build a model engine, a piece of Early Canadian furniture, or a custom lampshade, a proper drawing or a design layout or a full size template of the required part will greatly facilitate the making of the part and probably save valuable time and material. Experimentation and modification can be done on the drawing so that the finished drawing will show in detail exactly what the finished product will look like, what procedures are necessary, and what material is required. The course is aimed at the hobbyist and takes a practical approach to the fundamentals of drafting and sketching and includes use of instruments, basic geometry, othographic projection, pictorial drawing and developments. Students may select their own projects.

MACHINE SHOP

MEASUREMENT AND LAYOUT

MACH 140A and B **Fee: $30.00, 60 hours, Campus CL**
Monday, 7:00 to 10:00 p.m.

*Course Content: B*asic types of measuring tools, gauges, indicators, micrometers, verniers, optical testing tools, surface finish, surface plate, scribers, surface gauge, dividers, punches, rules, calipers, angle plates, squares, vernier height gauges, protractors. Indexing; plain and rapid, co-ordinate measurement, sine bar, Assignments and practical applications.

BENCHWORK

MACH 140C **Fee: $20.00, 30 hours, Campus CL**
Monday, 7:00 to 10:00 p.m.

Course Content: The care and use of hand tools such as hammers, files, chisels and hacksaws. Related machine operations such as drilling, reaming, tapping, counterboring, bandsawing, band filing and band welding.
Prerequisite: MACH 140A and 140B or equivalent.
NOTE: 140A, 140B, and 140C can be taken separately or consecutively. Together they form an introductory course that is a prerequisite for all machine shop courses.

LATHEWORK (Basic)

MACH 141A **Fee: $30.00, 60 hours, Campus CL**
Tuesday, 7:00 to 10:00 p.m.

Prerequisite: MACH 140 or equivalent.
Course Content: Lathe construction, operation, safety and accessories; theory of metal cutting, sharpening tool bits, plain turning, knurling, drilling, counter boring and tapping, form turning; steady and follower rest work.

LATHEWORK (Intermediate)

MACH 141B **Fee: $30.00, 60 hours, Campus CL**
Wednesday, 7:00 to 10:00 p.m.

Prerequisite: MACH 141A or equivalent.
Course Content: Indicating, four jaw chuck work, taper theory and taper turning, profile turning, spring winding, grinding attachments.

LATHEWORK (Advanced)

MACH 141C **Fee: $30.00, 60 hours, Campus CL**
Thursday, 7:00 to 10:00 p.m.

Prerequisite: MACH 141B or equivalent.
Course Content: Thread types, theory and cutting, single and multiple start threads, eccentrics, boring, turret lathe theory.

MILLING

MACH 142A **Fee: $30.00, 60 hours, Campus CL**
Tuesday, 7:00 to 10:00 p.m.

Prerequisite: MACH 140 and 141 or equivalent.
This program is designed for people who wish to acquire the basic skills and a knowledge of milling.

Course Content: Milling machine construction and the operation of various types of milling machines, work holding devices, cutters and attachments, speeds, feeds, and safety precautions; flat, angular and form milling, fly cutting, and cutting fluids; basic heat-treatment.

MILLING

MACH 142B **Fee: $30.00, 60 hours, Campus CL**
Thursday, 7:00 to 10:00 p.m.

Prerequisite: MACH 142A or equivalent.

Course Content: Theory and practice in the use of dividing head, with special attention to differential and angular indexing gear theory, gear cutting, helical milling theory with special emphasis on mathematical problems in helical milling, jig boring, contour tracing, pantograph and slotting.

DIEMAKING I — A.T.E.C. Program (Approved)

MACH 204 **Fee: $45.00, 90 hours, Campus CL**
Monday and Wednesday, 7:00 to 10:00 p.m.

Prerequisite: MACH 140, 141, 142, and 143 or equivalent.

Course Content: Punch press theory and operation, press brake theory and operation. Theory, development, construction and operation of the following types of dies: cut-off, trim, pierce, bending, blank, forming, compound.

MOULDMAKING I

MACH 901 **Fee: $45.00, 90 hours, Campus CL**
Monday, 7:00 to 10:00 p.m.

Prerequisite: Considerable general machining experience.

Course Content: Safety, mould construction, parts and functions, types of steels used, accuracy, tolerancing, shrink factors, principal thermoplastics and their applications, specialized hand tools and equipment, finish on moulds, machining mould parts, heat treatment, lapping, assembly and tryout.

NUMERICAL CONTROL

MACH 902 **Fee: $30.00, 60 hours, Campus CL**
Saturday, 9:00 to 12:00 noon

Prerequisite: General machining experience.

Course Content: Applications, justification, axes, co-ordinates, quadrants, systems, tapes and codes, programming point to point and continuous path systems; tape preparation and editing; 2-axis milling machine programming, set-up and operation. Basic computer programming.

ELECTRICAL DISCHARGE MACHINE—E.D.M.

MACH 904 **Fee: $20.00, 30 hours, Campus CL**
Saturday, 9:00 a.m. to 12:00 noon

Prerequisite: Thorough knowledge of machine shop practice.

Course Content: "Hands on" training in the operation of resistance — capacitance and pulse type power supply E.D.M. equipment. Theory of discharge process, dielectrics, tool wear and overcut. Theory and practice of electrode manufacture, using lathes, mills, grinders and pantograph.

NUMERICAL CONTROL

MACH 905 **Fee: $20.00, 30 hours, Campus CL**
Tuesday, 7:00 to 10:00 p.m.

Prerequisite: MACH 904 or previous part programming experience.

Course Content: History; computer assist N/C language, APT and AD-APT systems. Hardware, software, AD-APT system structure. AD-APT; co-ordinate system, part geometry, tools-to-geometry relationships, part surface, drive surface, check surface, extended capabilities. AD-APT statements, vocabulary, symbols and punctuation. Geometric words, logical structure in describing, part geometry. Tool motion, tool description statements, motion statements, motion termination.

GENERAL MACHINE SHOP

MACH 906 **Fee: $45.00, 90 hours, Campus CL**
Monday and Wednesday, 7:00 to 10:00 p.m.

Prerequisite: Interest in machine shop.

Course Content: Theory and practical assignments in the following areas: shop mathematics, benchwork, drills and drilling, bandsaws, lathes, milling machines, surface and cylindrical grinders.

MECHANICAL MAINTENANCE — Part 1

MILL 900A **Fee: $30.00, 60 hours, Campus CL**
Wednesday, 7:00 to 10:00 p.m.

This course is designed for those working as maintenance mechanics who wish to improve their knowledge of mechanical components, their functions, limitations, and service procedures.

Course Content: Belt drives, chain drives, gears, shafts, keys, couplings, bearings, variable speed transmissions, clutches, brakes and seals.

MECHANICAL MAINTENANCE — Part 2

MILL 900B **Fee: $30.00, 60 hours, Campus CL**
Wednesday 7:00 to 10:00 p.m.

Prerequisite: Mill 900A.

Course Content: Basic hydraulic and pneumatic principles, components and circuits, air compressors, conveyor types and components, trouble shooting and servicing.

GENERAL INFORMATION REGARDING PART-TIME COURSES IN PLASTICS

SHIFT WORKERS

Our present policy is to permit those who cannot attend regular classes to attend the College between the hours of 9:00 a.m. to noon, Monday through Friday, in lieu of attending evening classes. Dates and times must be prearranged.

TECHNICAL AND OPERATOR PROGRAMS

The part-time courses prescribed for these programs are identical with those listed in the day calendar for full-time students. Part-time students can qualify for a certificate or diploma through part-time courses.

THERMOSET MATERIALS — PROCESSES AND DESIGN

PL 125 **Fee: $45.00, 90 hours, Campus CL**

Tuesday, 7:00 to 10:00 p.m.

(Three ten-week periods: October 9 to December 11; January 8 to March 12; and March 19 to May 7)

The student may select any, or all, of the assignments for the three subject areas listed below.

MATERIALS THERMOSET

Course Content: History and introduction to polyester and epoxy resins, reinforcements and fillers, composites, strength of material definitions.

PROCESSES THERMOSET

Course Content: Theory and application of thermosetting plastic processes, pattern and mould making, hand lay-up, spray-up, foaming of plastics and compression moulding.

DESIGN THERMOSET

Course Content: Design characteristics for glass fibre reinforced plastics; throw-away and plaster tooling; reinforced plastic moulds and tooling; wooden, rubber and metal moulds; cost estimating.

Technical References:

Plastics Engineering Handbook by Society of the Plastics Industry. Publisher: Reinhold.

Handbook of Reinforced Plastics by Oleesky and Mohr. Publisher: Reinhold.

Modern Plastics Encyclopedia. Modern Plastics Magazine. Publisher: McGraw-Hill.

Fibreglas Canada Limited, Booklets Nos. 1, 2 and 3.

Canadian Gypsum Co. Ltd., Bulletin No. IGL102 (re: Plaster Moulds).

FORMING AND FABRICATING OF THERMOPLASTICS

PL 900 **Fee: $20.00, 30 hours, Campus CL**

Tuesday, 7:00 to 10:00 p.m.

(Three ten-week programs: October 9 to December 11; January 8 to March 12; and March 19 to May 7)

While the bulk of the thermoplastic articles that we see today are mass-produced on expensive equipment, there are still many articles made by forming and fabrication from sheet, castings, or shapes. Some of these are car bodies, boats, signs, skylights, architectural models, mechanical models, and works of art.

Equipment required can be quite inexpensive and much of this work can be carried out in the home, using common household tools.

It should be of interest to people who are engaged in this type of production: model-makers, architects, engineers, hobbyists and artists.

Course Content: Machining, forming, welding, cementing, engraving, decorating and finishing of thermoplastics materials.

INTRODUCTION TO PLASTICS

PL 901 **Fee: $20.00, 30 hours, Campus CL**

Thursday, 7:00 to 10:00 p.m.

October 4, 1973 to December 6, 1973

This course comprises lectures and demonstrations and includes materials, their properties and end uses.

Course Content: Thermosets and reinforced thermosets, polystyrenes, vinyls, polyolefins, engineering thermoplastics, reinforced thermoplastics, converting processes, designing with plastics.

EXTRUSION

PL 902 **Fee: $20.00, 30 hours, Campus CL**

Thursday, 7:00 to 10:00 p.m.

January 3, 1974 to March 7, 1974

This course is a prerequisite for a number of other plastics courses.

Prerequisite: PL 901 or equivalent industrial experience.

Course Content: Operating principles, components and nomenclature, drive systems, screw design, heating and cooling, instrumentation and control, maintenance, multi-screw extruders.

DESIGNING WITH PLASTICS

PL 903 **Fee: $20.00, 30 hours, Campus CL**

Wednesday, 7:00 to 10:00 p.m.

January 9, 1974 to March 13, 1974

The purpose of this course is to assist designers to understand the properties and processing methods used with plastics material and to select materials appropriate to a product function.

Prerequisite: PL 901 or equivalent industrial experience.

Course Content: Design procedure and design considerations, materials properties, processing methods, testing, case histories.

COMPOUNDING AND COLOURING

PL 904 **Fee: $20.00, 30 hours, Campus CL**

Wednesday, 7:00 to 10:00 p.m.

March 20, 1974 to May 22, 1974

Prerequisite: PL 902 or equivalent industrial experience.

Course Content: Equipment and processes, colour compounding, P.V.C. compounding, dry blending, fire retardents, testing and quality control.

INJECTION MOULDING

PL 905 **Fee: $20.00, 30 hours, Campus CL**

Thursday, 7:00 to 10:00 p.m.

March 14, 1974 to May 16, 1974

Prerequisite: PL 902 or equivalent industrial experience.

Course Content: Injection, clamping, hydraulic systems, electrical controls, heating and cooling, maintenance and troubleshooting.

BLOW MOULDING

PL 906 **Fee: $20.00, 30 hours, Campus CL**

Thursday, 7:00 to 10:00 p.m.
March 14, 1974 to May 16, 1974

Prerequisite: PL 902 or equivalent industrial experience.
Course Content: Systems, manifolds, valves, accumulators, dies, moulds, programming, clamping systems, post treatment, maintenance, troubleshooting, testing, quality control.

COATINGS TECHNOLOGY

CHEM 901 **Fee: $45.00, 75 hours, Campus CL**

Thursday, 7:00 to 10:00 p.m.

This program is intended to assist paint industry employees, those who have only recently entered the paint and allied raw materials industries, and those who feel the need for a refresher course in the fundamentals of paint technology; their increased knowledge will allow them to function more effectively in the paint industry.
The course has been organized to conform to the standardized basic course in Paint Technology (Organic Coatings I) as outlined by the Federation of Societies for Paint Technology Education Committee.
Course Content: Introduction, extender pigments, white prime pigments, inorganic and organic coloured pigments, oils for paint, alkyd resins, solvents, driers and paint additives, trade sales finishes (emulsion & solvent based types), exterior finishes for houses and buildings, calculations for formulation, industrial finishes, cellulose derivatives and lacquers, corrosion and chemical-resistant finishes, surface preparation, methods of application, paint manufacture and testing, future trends in coatings, practical lab work. Safety is emphasized throughout the course.

TEST 900 ULTRASONIC TESTING I

This will be a basic course in ultrasonic testing, particularly interesting to the individual who is preparing to write his Junior Level Ultrasonic Testing examination. The topics have been selected to give the student the full theoretical background necessary to pass the CGSB test.
Course Content: Introduction and testing philosophy, test principles, applications and capabilities, equipment, testing techniques, calibration.
Textbook: General Dynamics Classroom Training Handbook CT-6-4, Ultrasonic Testing.
Inquiries about time and cost should be made at the admissions office, 37 Dartnell Avenue, Phone 967-1212, Ext. 404 or 405.

TEST 901 EDDY CURRENT TESTING I

A basic course in eddy current testing will be directed to technicians who are using the equipment, to supervisors and others who require a basic understanding of the method, and to those who wish to generally broaden their knowledge in non-destructive testing.
Course Content: Introduction and testing philosophy, test principles, applications and capabilities, equipment, testing techniques, calibration.
Textbook: General Dynamics Classroom Training Handbook CT-6-5, Eddy Current Testing.
Inquiries about time and cost should be made at the admissions office, 37 Dartnell Avenue. Phone 967-1212, Ext. 404 or 405.

TEST 902 ULTRASONIC TESTING II

This course is specifically directed to the man whose work requires that he be able to interpret the results of an ultrasonic test. An introdutcion to test basics will be given but the stress will be on results and their interpretation. Inspectors, engineers and supervisors will find this course of value.
Course Content: Introduction and testing philosophy, test principles, equipment applications and capabilities, results, records and interpretation, certification procedures and regulatory codes.
Textbook: General Dynamics Classroom Training Handbook CT-6-4, Ultrasonic Testing.
Inquiries about time and cost should be made at the admissions office, 37 Dartnell Avenue. Phone 967-1212, Ext. 404 or 405.

TEST 903 INDUSTRIAL RADIOGRAPHY I

This course is directed to the radiographer who is eligible to write his Junior Industrial Radiographer examination and provides formal preparation for all phases of the examination. It is also of interest to personnel in supervisory, quality assurance, or affiliated positions who require a knowledge of the fundamentals of radiography.
Course Content: Introduction to electromagnetic spectrum, velocity, frequency, and wavelength of light; generation of x-rays and gamma rays; mathematics of radiography — inverse square law, law of reciprocity; radiographic sensitivity — definition and contrast; aids to radiographic sensitivity; film — types and classes — densitometry — sensitometry; exposure charts; darkroom procedures and processing of film; records and standards; radiation protection — Federal and Provincial Regulations — safe working conditions; radiographic techniques; film interpretation.
Textbook: Canadian Government Specifications Board, Industrial Radiography 48-GP-5.
Inquiries about time and cost should be made at the admissions office, 37 Dartnell Avenue. Phone 967-1212, Ext. 404 or 405.

TEST 904 INDUSTRIAL RADIOGRAPHY II

This course is specifically directed to the man whose work requires that he be able to interpret the results of X-ray tests. While some time will be spent on equipment and basic principles, the stress will be on results and their their interpretation. Inspectors, engineers, and supervisors will find this course of value.
Course Content: Basic principles, equipment applications and capabilities, results, records, interpretation, certification procedures, and regulatory codes.
Textbook: Canadian Goverment Specifications Board, Industrial Radiography 48-GP-5.
Inquiries about time and cost should be made at the admissions office, 37 Dartnell Avenue. Phone 967-1212, Ext. 404 or 405.

NONDESTRUCTIVE TESTING I & II

This course will be offered in two consecutive 30-hour periods and will cover the basic principles of the popular N.D.T. test methods in use today. It should be of considerable interest and value to engineers and those employed in inspection or quality control or assurance, to learn the applications and capabilities of modern N.D.T. equipment and methods in comparison to destructive testing and control of manufacturing procedures.

TEST 905 **NONDESTRUCTIVE TESTING I**

Prerequisites: None.
Philosophy of Nondestructive Testing Basic principles, equipment application and capabilities of:

1. Visual and Optical testing
2. Infrared Testing
3. Penetrant Testing
4. Magnetic Particle Testing
5. Eddy Current Testing

Textbook: Electrical Magnetic and Visual Methods of Testing Materials, Blitz, King.

TEST 906 **NONDESTRUCTIVE TESTING II**

Prerequisites: None.
NDT I Basic principles, equipment applications and capabilities of Ultrasonic Testing and Radiographic Testing.
Textbook: General Dynamics Manual CT-6-4 and C.G.S.B. 48-GP-5 Industrial Radiography.
Inquiries about time and cost should be made at the admissions office, 37 Dartnell Avenue. Phone 967-1212, Ext. 404 or 405.

BUSINESS EQUIPMENT SERVICING — Part I

BES 900 **Fee: $30.00, 60 hours, Campus CL**
Tuesday, 7:00 to 10:00 p.m.

The aim of this course is to teach the student the operating principles of the various parts of a typewriter, and the malfunctions that may occur on these machines.
Prerequisite: Grade 10 with mechanical aptitude and preferably employed in the business machines field.
Course Content: Checking, troubleshooting, analysis of mechanisms and their operations, assembling and disassembling procedures of the major machine parts.

BUSINESS EQUIPMENT SERVICING — Part II

BES 901 **Fee: $30.00, 60 hours, Campus CL**
Monday, 7:00 to 10:00 p.m.

Adding machine servicing — in this course the student will be taught the operating principles and servicing of adding machines.
Prerequisite: Grade 10 or employed in the business machine industry.
Course Content: Theory of adding machines, tape, reading trouble-shooting, repairing, adjusting, checking and replacement of parts such as printing mechanism, stop section, rack units, power unit and accumulation units.

ELECTRIC WATCH SERVICE

WATCH 900 **Fee: $30.00, 60 hours, Campus CL**
Wednesday, 7:00 to 10:00 p.m.

Prerequisite: Currently employed in watchmaking industry.
Course Content: Introductory electricity, Bulova Accutron, Hamilton electric watches, Swiss electric watches, Timex electric watches.

WATCHMAKING

WATCH 901 **Fee: $30.00, 60 hours, Campus CL**
Tuesday, 7:00 to 10:00 p.m.

Prerequisite: Currently employed in the watchmaking industry.
Course Content: Lathe work, balance work, hairspring work, clock work, watch conditioning, escapement matching, jewelling, making staffs and stems, adjusting, complicated watches, preparation for Canadian Jewellers' Association examinations.
NOTE: Each section must be successfully completed before further advanced training may be undertaken.

WATCHMAKING (Advanced)

WATCH 902 **Fee: $55.00, 120 hours, Campus CL**
Tuesday and Thursday, 7:00 to 10:00 p.m.

This is a pre-examination course for candidates seeking Ontario certification as a watch repairer.
Prerequisite: Applicants must be qualified watchmakers, willing to study modern advanced theory of watch construction, repair and adjustment.

BASIC CLOCK REPAIRING

WATCH 903 **Fee: $45.00, 90 hours, Campus CL**
Tuesday, 7:00 to 10:00 p.m.

This course provides instruction in repairing small mechanisms and clocks. Students will be encouraged to proceed at their own rate according to their abilities and knowledge.
Course Content: Theory: Pendulums and balance wheels as frequency standards, power supply, gearing, escapements, practical solutions to problems frequently occurring, alarm, striking and chiming mechanism.
Shop: Basic tuning, replacing of mainsprings, staffs, suspension springs, fitting of bushings, hole closing, reaming and uprighting, pivoting, clock cleaning, setting up escapements.
Time will be divided between 1 hour lecture and 2 hour shop periods.

PRACTICAL WATCH ADJUSTMENT

WATCH 904 **Fee: $20.00, 30 hours, Campus CL**
Tuesday, 7:00 to 10:00 p.m.

Prerequisite: Currently employed as a watchmaker.
This course has been developed for the watchmaker at the bench. It should help him to do a better job of watch timing and adjusting.
Course Content: Theory: Swiss lever escapement, modern watch hairsprings, modern watch balance wheels, fast beat movements and their performance, balance and hairspring theory, effects of friction on position timing, adjustments to isochronism, adjustments to positions.
Shop: Preparations for adjustment, timing machine operations, practical adjustment techniques.

ABOVE KNEE AMPUTATIONS

PROS 900 **Fee: $25.00, 40 hours, Campus CL**
Monday and Thursday, 7:00 to 9:00 p.m.

Prerequisite: Students must be currently engaged as technicians in the prosthetics field.

Course Content — Theory: Anatomy, physiology, pathology, indications for amputation, prescriptions, charts, and knee mechanisms.
Practice: Negative casts, positive casts, modifications, preparation for laminate, vacuum lay-up, manufacturing shins, alignment, transfer, finishing processes.

BELOW KNEE AMPUTATIONS

PROS 901 **Fee: $25.00, 40 hours, Campus CL**

Monday and Thursday, 7:00 to 9:00 p.m.

Prerequisite: Students must be currently engaged as technicians in the prosthetics field, plus completion of PROS 900.

Course Content — Theory: Anatomy, physiology, pathology, indications for amputation, prescriptions, and charts.

Practice: Negative casts, positive casts, modifications, preparation for laminate, vacuum lay-up, manufacturing shins, alignment, transfer, finishing processes.

PROS 900 and PROS 901 will be offered consecutively. Similar courses in orthotics may be offered.

BASIC AND FUNCTIONAL ANATOMY

PROS 902 **Fee: $40.00, 30 hours, Campus CL**

Tuesday, 7:30 to 9:30 p.m.

Prerequisite: None.

Course Content: Functional anatomy of the human body including muscular-skeletal systems, blood circulation, bone structure, terminology. Human locomotion and body movements.

Fashion Technology Courses

APPAREL CONSTRUCTION

DRES 141	Apparel Construction (Elementary)
DRES 145	Apparel Construction (Intermediate)
DRES 151	Apparel Construction (Advanced)
DRES 155	Apparel Construction (Special Advanced)
DRES 146	Tailoring I
DRES 141S	Apparel Construction (Elementary Special)

APPAREL DESIGN

PAT 141	Apparel Design (Elementary)
PAT 143	Apparel Design (Intermediate)
PAT 151	Apparel Design (Advanced)
PAT 153	Apparel Design (Special Advanced)

FASHION ILLUSTRATION

PAT 144	Fashion Illustration (Elementary)
PAT 154	Fashion Illustration (Intermediate)

FABRIC DESIGN

FASH 906	Conceptual Fabric Design 1 (Batik)

MEN'S CLOTHING

FASH 904	Men's Clothing I
FASH 905	Men's Clothing II

INDUSTRIAL POWER SEWING

SEW 141	Industrial Power Sewing I
SEW 142	Industrial Power Sewing II
SEW 143	Industrial Power Sewing III
SEW 144	Industrial Power Sewing IV

FUR

FUR 143	Fur Recognition I
FUR 153	Fur Recognition II
FUR 144	Fur Manufacturing Techniques I (Elementary)
FUR 154	Fur Manufacturing Techniques II (Intermediate)
FUR 145	Fur Fashions
FUR 155	Fur Design

APPAREL TECHNOLOGY

AT 100	Work Management I
AT 161	Operator Training Techniques

JEWELLERY ARTS

GEM 167	Gemmology
JWL 160	Jewellery Making
ENA 170	Jewellery Making (Enamelling)
JWL 903	Jewellery Making (Lapidary)
JWL 164	Jewellery Making (Sliversmithing)
JWL 905	Basic Jewellery Arts
JWL 906	Intermediate Jewellery Arts
JWL 907	Advanced Jewellery Arts

FASHION TECHNOLOGY COURSES

GENERAL INFORMATION:

Fashion Technology part-time classes are so arranged as to make it possible for interested students to work towards a certificate in a special skill, or a diploma in "Creative Fashions" or "Apparel Technology" on a part-time basis. Credit unit value of each course is stated where available. Further details may be obtained from the Fashion Technology Division at 967-1212, Ext. 311. Following is a list of the credits required for the various certificates and diplomas offered through the Fashion Technology Division:

DIPLOMAS

FT-2	Jewellery Arts	—	Technician	—	84 credits
FT-1	Creative Fashions	—	2-Year Diploma	—	93 credits
FT-3	Apparel Technology	—	2-Year Diploma	—	98 credits

CERTIFICATES

FT-40	Apparel Design and Pattern Drafting	—	41 credits
FT-41	Custom Dressmaking and Alterations	—	40 credits
FT-42	Industrial Power Sewing	—	20 credits
FT-43	Fur Business and Manufacturing Techniques	—	48 credits

NOTE: Diploma in Creative Fashions requires 93-96 credits depending on option selected.

DRES 141 **APPAREL CONSTRUCTION (Elementary)**
C.U. 8.0 for Certificate **Fee: $30.00, 60 hours, Campus K**
C.U. 4.0 for Diploma **Monday, Tuesday, Wednesday, Thursday (Fall)**
7:00 to 10:00 p.m.

Prerequisite: Novice or inexperienced sewer aiming to acquire skills in custom dressmaking.
Course Content: Projects: shifts or jumpers, skirts (wool) and/or blouses (cotton). Measurements, relationship of pattern, style and fabric; laying out of pattern, sewing techniques. The student will provide own material.

APPAREL CONSTRUCTION (Intermediate)
DRES 145 **Fee: $20.00, 30 hours, Campus K**
C.U. 1.0 **Tuesday, Wednesday, 7:00 p.m. to 10:00 p.m. (Spring)**

Prerequisite: DRES 141 or equivalent.
Course Content: Continuation of DRES 141, including special finishes, patterns and techniques used with knits and stretch fabrics; intimate wear and lingerie. The student will provide own material.

DRES 151 **APPAREL CONSTRUCTION (Advanced)**
C.U. 8.0 for Certificate **Fee: $30.00, 60 hours, Campus K**
C.U. 4.0 for Diploma **Wednesday and Thursday, 7:00 to 10:00 p.m. (Fall)**

Prerequisite: DRES 145 or equivalent.
Course Content: Projects: detailed dresses, skirts and weskits (lined) and gowns. Emphasis on fitting, hand finishes and detail. Application of trims,

bound button holes, pockets, hand sewn zippers, etc. The student will provide own material.

APPAREL CONSTRUCTION (Special Advanced)
DRES 155 **Fee: $20.00, 30 hours, Campus K**
C.U. 1.0 **Wednesday, 7:00 to 10:00 p.m. (Spring)**

Prerequisite: DRES 151 or equivalent.
Course Content: Advanced techniques over DRES 151 stressing fitting, alterations, knits, stretch fabrics, textiles, intimate wear, lingerie. Students must provide own fabrics.

TAILORING I
DRES 146 **Fee: $30.00, 60 hours, Campus K (Fall)**
Wednesday, 7:00 to 10:00 p.m. or Monday and Tuesday, 9:00 to 12:00 noon
C.U. 4.0 Certificate
C.U. 3.0 Diploma

Prerequisite: DRES 141 or sewing skills.
Course Content: Ladies' tailoring, sewing techniques, cutting, finishing coats and suits using commercial techniques.

DRES 141S* **APPAREL CONSTRUCTION (Elementary Special)**
C.U. 8.0 for Certificate only **Fee: $30.00, 60 hours, Campus K**
Thursday, 7:00 p.m. to 10:00 p.m. (Fall)

Prerequisite: Desire to acquire skills in power sewing machine operation and dressmaking.
Course Content: Operation of power machines; shifts, skirts, blouses, dresses; measurements, commercial patterns; selection of fabrics, etc. Students will provide own fabrics.
*This course is specially designed for applicants with limited facility in English.

APPAREL DESIGN (Elementary)
PAT 141 **Fee: $30.00, 60 hours, Campus K**
Monday and Tuesday, 7:00 to 10:00 p.m. (Fall)
C.U. 7.0 Certificate
C.U. 4.0 Diploma

Prerequisite: This course is for the student who is knowledgeable in dressmaking.
Course Content: The course includes a systematic method of pattern cutting by drafting directly on paper or "on the flat" as it is often called.

1. Drafting the basic foundation pattern for your figure—type and manufacturing sizes.
2. Emphasis on fitting and alteration of patterns.
3. Undertaking the basic principles of the craft. You will be able to obtain style effects by designing from a sketch or your original ideas.

APPAREL DESIGN (Intermediate)

PAT 143 **Fee: $20.00, 30 hours, Campus K**
C.U. 2.0 **Tuesday, 7:00 p.m. to 10:00 p.m. (Spring)**

Prerequisite: PAT 141
Course Content: Embellishing PAT 141 with design, colour, texture, grading rules, etc.

PAT 151 **APPAREL DESIGN (Advanced)**
C.U. 6.0 Certificate **Fee: $30.00, 60 hours, Campus K**
C.U. 4.0 Dipolma **Wednesday, 7:00 to 10:00 p.m. (Fall)**

Prerequisite: PAT 143.
Course Content: The course will consist of designing a garment from a sketch or an original idea. It will include creative styling such as coats, suits, sportswear, etc., and also dresswear and advanced styling.

PAT 153 **APPAREL DESIGN (Special Advanced)**
C.U. 3.0 **Fee: $20.00, 30 hours, Campus K**
Monday, 7:00 to 10:00 p.m. or Thursday, 9:00 a.m. to 12.00 noon (Spring)

Prerequisite: PAT 151.
Course Content: For advanced students showing special talents in design and originality to bring out creativity. Projects at own speed under supervision.

FASHION ILLUSTRATION (Elementary)

PAT 144 **(Apparel Design)**
C.U. 2.0 **Fee: $30.00, 60 hours, Campus K (Fall)**
Monday, 9:00 a.m. to 12:00 noon; 1:00 to 4:00 p.m.; and 7:00 to 10:00 p.m.

Prerequisite: Artistic flair and AU 41 (Grade 8).
Course Content: Course in drawing figures and clothing (still and from life) to show fashion, style design, fabric texture in preparation for apparel construction or apparel advertising layouts.

FASHION ILLUSTRATION (Intermediate)

PAT 154 **(Apparel Design)**
C.U. 3.0 Certificate **Fee: $30.00, 60 hours, Campus K**
C.U. 2.0 Diploma **Friday, 9:00 to 12:00 noon (Spring)**

Prerequisite: PAT 144
Course Content: Advanced lessons for commercial applications in fashion art.

CONCEPTUAL FABRIC DESIGN I
(Batik—Elementary)

FASH 906 **Fee: $30.00, 60 hours, Campus K**
Non-Credit **Wednesday, 7:00 to 10:00 p.m.**

Prerequisite: Instructor's evaluation.
Course Content: A comprehensive creative course in dye technology, resist-dyeing and accessories (e.g. scarves, sashes and shirts) in apparel.
Hand-painted techniques; fabric selection; textile chemistry. Preparation for more advanced applications of batik for apparel and other art forms.

MEN'S CLOTHING I

FASH 904 **Fee: $30.00, 60 hours, Campus K**
Non-Credit **Monday, 7:00 to 10:00 p.m. (Fall)**

Prerequisite: This course is designed for those working in men's apparel stores and their employers. Extensive experience is *not* necessary; interest is more important.
Course Content: Taping and measuring; figure description; proper writing-up of orders; fitting and try-ons and some common alterations and markings for made-to-measure.

MEN'S CLOTHING II (Elementary)

FASH 905 **Fee: $20.00, 30 hours, Campus K**
Non-Credit **Tuesday, 7:00 to 10:00 p.m. (Spring)**

Prerequisite: Instructor's evaluation.
Course Content: To give basic knowledge through a short condensed course on how to measure and write up an effective order for made-to-measure suits.

INDUSTRIAL POWER SEWING I

SEW 141 **(Single-Needle Machine)**
C.U. 6.0 **Fee: $55.00, 120 hours, Campus K**
Tuesday and Thursday morning, 9:00 to 12:00 noon

Prerequisite: Instructor's evaluation.
Course Content: Performance objective technique in training to operate the industrial single-needle lockstich sewing machine as used in Ontario apparel plants and workrooms.

INDUSTRIAL POWER SEWING II

SEW 142 **(Serger Machine)**
C.U. 1.5 **Fee: $20.00, 30 hours, Campus K**
Wednesday, 9:00 to 12:00 noon

Prerequisite: SEW 141.
Course Content: Training in operating single-needle chain-stitch serging machine.

INDUSTRIAL POWER SEWING III

SEW 143 **(Blind-Stitch Machine)**
C.U. 1.5 **Fee: $20.00, 30 hours, Campus K**
Tuesday, 3:00 to 6:00 p.m.

Prerequisite: SEW 141.
Course Content: Training in operating curved-needle blind-stitch machine for apparel or fur industries.

INDUSTRIAL POWER SEWING IV

SEW 144 **(Buttonhole and Button-Sewer Machines)**
C.U. 2.0 **Fee: $20.00, 30 hours, Campus K**
Thursday, 3:00 to 6:00 p.m.

Prerequisite: SEW 142 or SEW 143.
Course Content: Training in operating professional button-hole machine and button-sewing machine as used in Ontario apparel plants.

FUR COURSES

FUR RECOGNITION I

FUR 143 **(Introduction)**
C.U. 5.5 **Fee: $30.00, 60 hours, Campus K**
Tuesday, 9:00 to 12:00 noon (Begins 18 September 1973)

Prerequisite: Instructor's evaluation or AU 42 (Grade 10).
Course Content: To identify furs in common use in all forms as they appear in world markets; facts vs. fantasies and fables; care and expected wearing life; fur conservation and place in ecology. This course covers *first three* of eight fur families in use today. Actual furs displayed and studied; performance recognition tests given; information sheets and readings.

FUR RECOGNITION II

FUR 153 **(Intermediate)**
C.U. 5.5 **Fee: $30.00, 60 hours, Campus K**
Tuesday morning, 9:00 to 12:00 noon (Begins 5 February 1974)

Prerequisite: FUR 143 or AU 42 (Grade 10).
Course Content: Continuation of FUR 143, covering last five of eight fur families in use today. Fur insurance, rates, storage, cleaning problems; government labelling laws and proper description. Actual furs displayed and studied; performance recognition tests; information sheets; readings.

FUR MANUFACTURING TECHNIQUES I (Elementary)

FUR 144 **Fee: $30.00, 60 hours, Campus K**
C.U. 8.0 **Monday, 9:00 to 12:00 noon (Begins 17 September 1973)**

Prerequisite: Some fur knowledge and AU 42 (Grade 10).
Course Content: Major manufacturing techniques used in today's fur plants. Operation of fur sewing machines; elementary use of fur knife in repairing; damping and blocking pelts. Students supply own material to make fur ascot, hat or muff.

FUR MANUFACTURING TECHNIQUES II

FUR 154 **(Intermediate)**
C.U. 8.0 **Fee: $30.00, 60 hours, Campus K**
Monday, 9:00 to 12:00 noon (Begins 4 February 1974)

Prerequisite: FUR 144
Course Content: Continuation of FUR 144. Cutting 3 types of fur coats (muskrat, lamb, fox); fur repairs, maintenance, alterations, "dropping" if class capable of reaching this level. Students supply own material.

FUR FASHIONS

FUR 145 **Fee: $30.00, 60 hours, Campus K**
C.U. 4.5 **Thursday, 9:00 to 12:00 noon (Begins 20 September 1973)**

Prerequisite: FUR 144 or fur experience.
Course Content: Basic knowledge of fur patterns; tracing, cutting out; parts of pattern; functions; elementary grading up and down; cotton fittings.

FUR DESIGN

FUR 155 **Fee: $30.00, 60 hours, Campus K**
C.U. 4.5 **Thursday, 9:00 to 12:00 noon (Begins 7 February 1974)**

Prerequisite: FUR 144 and FUR 145 or equivalent.
Course Content: Elements of fur design; influence of fur type on design; skin placement and hair direction; interchanging of patterns; styling; new styles and original ideas. Intermediate grading; pattern alterations for special orders.

APPAREL TECHNOLOGY

WORK MANAGEMENT I

AT 100 **WORK MANAGEMENT I**
C.U. 2.5 **Fee: $30.00, 60 hours, Campus K**
Monday, 6:00 to 9:00 p.m. (Begins 15 October 1973 and 18 March 1974)
(Also see Day Timetables)

Prerequisite: Grade 12 mathematics; apparel plant experience or equivalent.
Course Content: To train foremen and foreladies, supervisors, etc. to do time and motion studies on cutting and sewing operations: basic theory; the stopwatch; the time study sheet and board; tachometers; work placement; elements; pick-up and disposal; human element; wage rate calculations; case problems. Students supply own watches and boards.

OPERATOR TRAINING TECHNIQUES

AT 161 **OPERATOR TRAINING TECHNIQUES**
C.U. 1.0 **Fee: $20.00, 30 hours, Campus K**
Thursday, 6:00 to 9:00 p.m. (Begins 11 Oct./73; 10 Jan./74; 21 Feb./74; 2 May/74) (Also see Day Timetables)

Prerequisite: Industrial power sewing certificate or equivalent in-plant experience.
Course Content: Teaching techniques for training sewing machine operators in a vestibule environment on specific operations: VTR; audio-visual aids; performance objectives.

JEWELLERY ARTS

GEMMOLOGY

GEM 167 **Fee: $30.00, 60 hours, Campus CL**
C.U. 2.0 **Tuesday, 7:00 to 10:00 p.m.**

Prerequisite: Applicants may either be employed in the jewellery industry or be interested in jewellery design as a hobby.
This course is offered in close co-operation with the Gemmological Association

of Great Britain. The course is taken during two successive winters and upon successful completion of the two examinations the Fellowship of the Association will be granted.
Materials and books $100.00 per session.

GEM 267 **(As above) — Second Session**
C.U. 2.0

JWL 160 **JEWELLERY MAKING**
C.U. 2.0 **Fee: $30.00, 60 hours, Campus CL**
Monday, Tuesday, Wednesday and Thursday, 7:00 to 10:00 p.m.
Saturday, 9:00 a.m. to 12:00 noon

Prerequisite: Currently employed in the jewellery industry or hobbyists.
Course Content: Planishing, hard soldering, finishing and polishing of precious metals, elementary jewellery repairs, shaping and forming settings for coloured stones and pearls, transferring designs to metals, cuttlefish casting, centrifugal casting, making models for fast production methods, handmaking of rings, brooches, pendants, earrings and bracelets.

JEWELLERY MAKING (Enamelling)
ENA 170 **Fee: $30.00, 60 hours, Campus CL**
C.U. 2.0 **Monday and Thursday, 7:00 to 10:00 p.m.**

The study and practice of various techniques in the use of vitreous enamels, such as cloisonne, plique-ajour and champleve, on copper and fine silver, with emphasis on creative design and setting of delicate pieces into jewellery. For beginner and experienced student. Individual instruction giving the opportunity to the student to develop skills at his own pace.

JEWELLERY MAKING (Lapidary)
JWL 903 **Fee: $30.00, 60 hours, Campus CL**
C.U. 2.0 **Wednesday, 7:00 to 10:00 p.m.**

Prerequisite: For those who are interested in cutting and polishing gem stones.
Course Content: Cutting gem material with diamond saw, grinding and lapping practice, sanding and polishing gem material, materials used for polishing and their uses, dopping procedure, orientation of gem stones, selecting rough material, theory of facet cutting, comparative hardness of materials.

JEWELLERY MAKING (Silversmithing)
JWL 164 **Fee: $30.00, 60 hours, Campus CL**
C.U. 4.0 **Thursday, 7:00 to 10:00 p.m.**

Prerequisite: Currently employed in the jewellery industry or hobbyists.
Course Content: The metal, the silversmith's appliances; malleability, fusibility and soldering; exercise bowls, boxes, serviette rings, beakers; teapot, raised and hammered from the blank; coffee pot with cast spout and handle; the decoration of silverwork on chasing, and on pierced work.

BASIC JEWELLERY ARTS
JWL 905 **Fee: $30.00, Campus CL**
Non-Credit **Summer Course — 2 Weeks**
5 days each week — (60 hours)
30 July to 10 August

INTERMEDIATE JEWELLERY ARTS
JWL 906 **Fee: $30.00, Campus CL**
Non-Credit **Summer Course — 2 Weeks**
5 days each week — (60 hours)
13 August to 24 August

ADVANCED JEWELLERY ARTS
JWL 907 **Fee: $30.00, Campus CL**
Non-Credit **Summer Course — 2 Weeks**
5 days each week — (60 hours)
27 August — 7 September

Food Technology Courses

DIPLOMA COURSE IN HAUTE CUISINE

FIRST TERM

F 900 Basic Practical Cookery
F 901 Practical Baking and Desserts
F 902 The Art of Fine Dining Part I Home and Abroad
F 903 Principles of Managing Food

SECOND TERM

F 904 Advanced Practical Cookery
F 905 Creative Pastry and Desserts
F 906 Planned Entertaining for Pleasure
F 907 Appreciation of Wines, Spirits & Liqueurs

FOOD TECHNOLOGY

BAKING

BK 10-1C Practical Baking
BK 10-1A Cake Decorating and Design I

COOKING

CHEF 10-1A Practical Cooking Commercial I
F 908X Strictly for Entertainment

WINE MAKING

F 909X Wine Making for the Amateur

BEVERAGE SALES

FA 206 Beverage Sales and Service (Cocktail Bartending)

ACCOUNTING

FADM 211 Hotel Front Office Accounting Procedures

MEAT SERVICES

MC 900 Retail Meat Cutting and Butchery
MC 901 Retail Meat Store Management

DECORATING TECHNIQUES AND DESIGN

BK 138A Part A
BK 138B Part B

BREADMAKING TECHNIQUES

BK 134A Part A
BK 134B Part B

CAKEMAKING TECHNIQUES

BK 135A Part A
BK 135B Part B

COOKIE & BISCUIT TECHNIQUES

BK 136A Part A
BK 136B Part B

CANDY AND CHOCOLATE TECHNIQUES

BK 137A Part A
BK 137B Part B

SANITATION AND HYGIENE

SAN 130A Part A
SAN 130B Part B

QUALITY CONTROL

TF 130A Part A
TF 130B Part B

BAKERY ENGINEERING

BK 139A Part A
BK 139B Part B

CEREAL CHEMISTRY

FT 130A Part A
FT 130B Part B

BAKERY MANAGEMENT

BK 140A Part A
BK 140B Part B

DIPLOMA COURSE IN HAUTE CUISINE

This program is designed to meet the evergrowing demand for knowledge and practical experience in the creation of fine food and entertainment in the home. The entire course consists of 8 individual sections commencing with basic practical cooking; this will give the student the opportunity to apply the principles of cooking, using the raw materials with tested recipes under the guidance of skilled chefs. This section will be followed in sequence by practical baking, the art of fine dining, and the principles of managing food. This will complete the first two semesters. The course will then continue with advanced practical cooking, creative pastry and desserts, planned entertainment for pleasure and appreciation of wines, spirits and liqueurs. Each student, on satisfactory completion of the individual sections, will receive a certificate of competence and, on completion of all the eight sections, will be awarded a diploma in haute cuisine.

First Year

BASIC PRACTICAL COOKERY

F 900 **Fee: $85.00, 60 hours, Campus K**

Tuesday or Wednesday, 6:00 to 10:00 p.m.

Course Content — This course is designed to introduce the basic principles of cooking as related to fine food, to take the raw products and create the basic requirements for classical dishes, sauteing, broiling and stewing, cooking lean and fat fish, seafoods, and the accompanying vegetables, salads, garnishes and dressings, employing the knowledge and expertise of chefs in the use of herbs, spices and wines.

PRACTICAL BAKING AND DESSERTS

F 901 **Fee: $55.00, 40 hours, Campus K**

Wednesday, 6:00 to 10:00 p.m.

This course is designed to equip the student with a practical working knowledge of pastry doughs, choux paste, yeast dough and sponge goods, the use of icings, creams, puddings, custards and other desserts, fruits, tarts, pies and quick breads, the high ratio and angel cake mixes, simple decoration and presentation of birthday and other occasion cakes.

THE ART OF FINE DINING — Part I (Home and Abroad)

F 902 **Fee: $35.00, 21 hours, Campus K**

Tuesday, 7:00 to 10:00 p.m.

This course will introduce the intimate knowledge of fine dining whether at home, on the town, or abroad, from the simple everyday meal to the more complex and exotic. How to plan the menu with attention to nutrition, quality and balance, the table settings, the floral arrangements, lighting and atmosphere, the techniques of arranging a dinner or luncheon party at your favourite restaurant with attention to the details of special dishes and service that the occasion may demand, choosing guests and seating arrangement and anticipating the tastes of your guests.

PRINCIPLES OF MANAGING FOOD

F 903 **Fee: $40.00, 24 hours, Campus K**

Tuesday, 7:00 to 10:00 p.m.

This course will give the student a sound and sensible approach to the ever present need for better knowledge of food products, their selection and pricing, the recognition of the physicial cuts of meat, the grades of poultry and game, the freshness and grades of fish and seafoods, the time and the season to buy, how to store and preserve foods economically without unnecessary investment, and how to evaluate the advertising of food products.

Second Year

ADVANCED PRACTICAL COOKERY

F 904 **Fee: $85.00, 60 hours, Campus K**

Thursday, 6:00 to 10:00 p.m.

Prerequisite: Basic Practical Cookery.
This course will take the basic principles of cooking and apply them to the classical dishes of the countries in continental Europe, so that the student will be able to produce the French classics, the famed Italian pastas, the Spanish paellas, the Russian coulibiacs, the Scandinavian smorgasbords, the German sauer braten and beer soups, the shish kabobs of Turkey and Greece, the bouillabaisse of Marseilles, the Indian curries, Japanese suki yaki, the nasi goreng of Indonesia and a host of other famous dishes.

CREATIVE PASTRY AND DESSERTS

F 905 **Fee: $55.00, 40 hours, Campus K**

Thursday, 6:00 to 10:00 p.m.

The course will take the basic knowledge of pastry and desserts and allow the development of these techniques to create the patisserie masterpieces, the flamboyant desserts, ice cream bombs, souffles, petits fours, tortes, gateaux, and sugar creations with the decorative centre pieces, the true art of French pastries and their presentation.

PLANNED "ENTERTAINING" FOR PLEASURE

F 906 **Fee: $35.00, 28 hours, Campus K**

Day — to be announced — 6:00 to 10:00 p.m.

Inquiries should be made at the admissions office, 21 Nassau Street.
Phone: 967-1212, Ext. 607.

This course is designed to give the student a master plan for catering within the home or rented establishment for the larger parties that the hostess may be called upon to organize such as weddings, showers, cocktail parties, lunches, dinners, barbecues, birthday anniversary parties, or any other occasion when quantity and economics must be given equal attention; in such functions expert planning is the answer.

APPRECIATION OF WINES, SPIRITS AND LIQUEURS

F 907 **Fee: $45.00, 32 hours, Campus K**

Day — to be announced — 6:00 to 10:00 p.m.

Inquiries should be made at the admissions office, 21 Nassau Street.
Phone: 967-1212, Ext. 607.

This course will be devoted to the knowledge of wines from the standpoint of types, vintage, prices, handling, storage, and correct usage in relation to the menu, the glassware, and the serving temperatures. Guest lecturers will deal with the evaluation by taste of the more distinctive wines.

FOOD TECHNOLOGY

PRACTICAL BAKING

BK 10-1C **Fee: $30.00, 60 hours, Campus K**

Monday, 7:00 to 10:00 p.m.

This course is designed for those who wish basic knowledge of baking. Lectures, demonstrations and student participation are combined to convey both practical and theoretical aspects of the art of baking.
Course Content: Quick breads, pies and tarts, puddings, bread and rolls, sweet yeast products, puff pastries and pate a choux, icings and fillings, cakes and cookies including ready mixes and other convenience products.

CAKE DECORATING AND DESIGN I

BK 10-1A **Fee: $30.00, 60 hours, Campus K**

Tuesday, 7:00 to 10:00 p.m.

Prerequisite: This course is designed for those persons who wish to learn the art of cake decoration and design.
Course Content: Icing and coatings, royal icing, fondants, butter creams, couvertures, boiled icings and frostings, basic design, techniques of piping, decorating materials, methods, freehand geometric designs, stencils, runouts, prefabricated decorations, lettering, flowers, border design, etc. Cakes for special occasions — techniques and methods.

PRACTICAL COOKING COMMERCIAL I

CHEF 10-1A **Fee: $35.00, 60 hours, Campus K**

Tuesday, 7:00 to 10:00 p.m.

Prerequisites — This course is offered to those persons who have little or no knowledge of cooking, both the food service operator and the homemaker. Lectures, demonstration and student participation are designed to teach practical and theoretical food preparation and cooking. Emphasis will be placed on variations of taste and texture in normal everyday foods.
Course Content: Culinary basics, soups and sauces. Methods of cooking meats, poultry, fish and seafoods. Various methods and techniques of pre-

paring roasts, stews and casseroles with accompanying sauces and garnishes. Salad preparation with suitable dressings. Vegetable and egg cookery and larder preparation are also practised in this program.

STRICTLY FOR ENTERTAINMENT

F 908x **Fee: $35.00, 30 hours, Campus K**

Monday, 7:00 to 10:00 p.m.

Prerequisites: This course is designed for those homemakers having a basic knowledge of cooking but wishing to entertain at home with flair and imagination.

Course Content: A series of lectures and demonstrations. Although the meals prepared are not intended to represent economical fare for the family, the basic principles governing the selection, combination and cooking of food can be applied to everyday use. Each session will be devoted to a complete menu and students will be given the opportunity to taste each dish whenever possible. A selection of complementary wines will be discussed and sampled.

WINE MAKING FOR THE AMATEUR

F 909x **Fee: $30.00, 30 hours, Campus K**

Thursday, 7:00 to 10:00 p.m.

Prerequisites: This course is designed for those persons interested in the art and craft of making wines at home and is open to any person over the age of eighteen.

Course Content: Brief history of wine making, basic wine making equipment, yeast and yeast cultures, stages in wine making, basic methods of testing, analysis and evaluation. Students will be given the opportunity to participate in all stages of the program, including making various types of wines, conducting tests and evaluating the taste of both homemade and commercial wines.

BEVERAGE SALES AND SERVICE (Cocktail Bartending)

FA 206 **Fee: $55.00, 30 hours, Campus K**

Monday, 7:00 to 10:00 p.m.

Prerequisites: A basic course for cocktail bartending. This course is open to men or women 18 years of age, who are currently working full or part time in a licensed establishment.

Course Content: Bar layout and equipment, manufacture of alcoholic beverages, beverage selection, storage and control, duties of the bartender, pre-opening preparation, theory of mixed drinks, practical preparation of mixed drinks and cocktails, sales and service of alcoholic beverages, selection of wines and their service. Human relations relating to licensed establishments.

HOTEL FRONT OFFICE ACCOUNTING PROCEDURES

FADM 211 **Fee: $20.00, 30 hours, Campus K**

Tuesday, 7:00 to 10:00 p.m.

Prerequisites: Grade XII or acceptable hotel/motel experience.
This course is designed for those currently employed in the industry who want a position in the front office, for those currently employed in the front office who seek advancement, and for those in the accounting department who wish to further their knowledge of hotel accounting.

Course Content: The function of the front office and its methods of operation, the theory of proper billing procedures for hotel guests, a demonstration of the various accounting machines and forms used in the front office, an extensive night audit procedure including practical work on the accounting machines to enable the student to understand and accurately balance a front office audit.

RETAIL MEAT CUTTING AND BUTCHERY

MC 900 **Fee: $30.00, 60 hours, Campus K**

Tuesday, 7:00 to 10:00 p.m.

Prerequisites: This course is designed for persons in junior positions in the retail trade and people interested in the skill of meat cutting.

Course Content: Lecture and demonstration: cutting, grading and characteristics of beef, lamb, pork and veal carcasses, preparation of poultry, fish and shellfish for retail sale, displaying and merchandising of all types of meat products, special lectures on sanitation and refrigeration. Students will participate in meat cutting during the course; this will include boning and tying of various meat products.

RETAIL MEAT STORE MANAGEMENT

MC 901 **Fee: $20.00, 30 hours, Campus K**

Monday, 7:00 to 10:00 p.m.

Prerequisites — This course is offered to those people who have a basic knowledge of meat and who wish to upgrade their knowledge for advancement to the position of manager, and for any person actively engaged in a meat store operation.

Course Content: Financial control of a retail operation, personnel training and relations, buying, receiving, storing for profit, meat department security, display and merchandising techniques, customer relations, sanitation, increasing profits through delicatessen and fish.

DECORATING TECHNIQUES AND DESIGN — Part A

BK 138A **Fee: $30.00, 60 hours, Campus K**

Time — to be announced

Inquiries should be made at the admissions office, 21 Nassau Street.
Phone: 967-1212, Ext. 607.

Prerequisite: All subjects, grade 10, and actively engaged in the baking industry or allied trades.

Course Content: This program includes a study of equipment necessary to both hand and mechanical operations; a study of ingredients, for example: sugar, sugar products, chocolate, nut pastes; ingredient standards will be tested in laboratory.

DECORATING TECHNIQUES AND DESIGN — Part B

BK 138B **Fee: $30.00, 60 hours, Campus K**

Time — to be announced

Inquiries should be made at the admissions office, 21 Nassau Street.
Phone: 967-1212, Ext. 607.

Prerequisite: Successful completion of part A.

Course Content: During this program, production methods will be studied and practised, together with design work, use of stencils and templates.

BREADMAKING TECHNIQUES — Part A

BK 134A **Fee: $30.00, 60 hours, Campus K**

Time — to be announced

Inquiries should be made at the admissions office, 21 Nassau Street.
Phone: 967-1212, Ext. 607.

Course Content: A study of the ingredients used in breadmaking: flour yeast, inhibitors, etc., their composition and use. Ingredient testing will also be considered and practised in laboratory work.

BREADMAKING TECHNIQUES — Part B

BK 134B **Fee: $30.00, 60 hours, Campus K**

Time — to be announced

Inquiries should be made at the admissions office, 21 Nassau Street.
Phone: 967-1212, Ext. 607.

Prerequisite: Successful completion of Part A.
Course Content: A study of the production methods and processes from no-time doughs to continuous methods; the equipment necessary for each method will also be studied. Practical comparisons will be completed in the laboratory.

CAKE MAKING TECHNIQUES — Part A

BK 135A **Fee: $30.00, 60 hours, Campus K**

Time — to be announced

Inquiries should be made at the admissions office, 21 Nassau Street.
Phone: 967-1212, Ext. 607.

Course Content: A study of the ingredients used in cakemaking: flour, sugars, fats, cocoa, egg products, inhibitors, etc. Their composition and uses will also be considered, together with ingredients testing in the laboratory.

CAKE MAKING TECHNIQUES — Part B

BK 135B **Fee: $30.00, 60 hours, Campus K**

Time — to be announced

Inquiries should be made at the admissions office, 21 Nassau Street.
Phone: 967-1212, Ext. 607.

Prerequisite: Successful completion of Part A.
Course Content: A study of the production methods and processes, including sponge, 2-stage methods and continuous, and the equipment necessary for each method. Practical comparisons will be included in the laboratory.

COOKIE AND BISCUIT TECHNIQUES — Part A

BK 136A **Fee: $30.00, 60 hours, Campus K**

Time — to be announced

Inquiries should be made at the admissions office, 21 Nassau Street.
Phone: 967-1212, Ext. 607.

Course Content: A study of the ingredients used in the manufacture of cookies, biscuits and crackers, for example: flour, leavening agents, egg products, together with problems involved in formulations. Ingredients testing will also be considered and practised in the laboratory.

COOKIE AND BISCUIT TECHNIQUES — Part B

BK 136B **Fee: $30.00, 60 hours, Campus K**

Time — to be announced

Inquiries should be made at the admissions office, 21 Nassau Street.
Phone: 967-1212, Ext. 607.

Prerequisite: Successful completion of Part A.
Course Content: A study of the production methods and processes, for example: wire-cut, deposit, rotary moulded, together with the equipment necessary for each method. Practical comparisons will be included in the laboratory.

CANDY AND CHOCOLATE TECHNIQUES — Part A

BK 137A **Fee: $30.00, 60 hours, Campus K**

Time — to be announced

Inquiries should be made at the admissions office, 21 Nassau Street.
Phone: 967-1212, Ext. 607.

Course Content: A study of chocolate and chocolate products, including the chemistry of chocolate, sugar and sugar products, their use and handling in candy and chocolate manufacture. This study will also include ancillary ingredients. Ingredient testing will be considered in practical laboratory.

CANDY AND CHOCOLATE TECHNIQUES — Part B

BK 137B **Fee: $30.00, 60 hours, Campus K**

Time — to be announced

Inquiries should be made at the admissions office, 21 Nassau Street.
Phone: 967-1212, Ext. 607.

Prerequisite: Successful completion of Part A.
Course Content: The production methods of candy and chocolates, together with the necessary equipment, will be studied, and tested in the laboratory.

SANITATION AND HYGIENE — Part A

SAN 130A **Fee: $30.00, 60 hours, Campus K**

Time — to be announced

Inquiries should be made at the admissions office, 21 Nassau Street.
Phone: 967-1212, Ext. 607.

Course Content: A study of the types of organisms common to food processing areas, for example, bacteria, moulds and yeasts, together with their role in food spoilage; food poisoning, in theory and laboratory.

SANITATION AND HYGIENE — Part B

SAN 130B **Fee: $30.00, 60 hours, Campus K**

Time — to be announced

Inquiries should be made at the admissions office, 21 Nassau Street.
Phone: 967-1212, Ext. 607.

Prerequisite: Successful completion of Part A.
Course Content: A study of pests common to food establishments and their control, together with regulations governing food establishments. Sanitation procedures will also be considered.

QUALITY CONTROL AND PRODUCT DEVELOPMENT — Part A

TF 130A **Fee: $30.00, 60 hours, Campus K**

Time — to be announced

Inquiries should be made at the admissions office, 21 Nassau Street.
Phone: 967-1212, Ext. 607.

Course Content: A study, both practical and theoretical, of test baking methods, scoring and control procedures, product assessment and evaluation, and the development of new varieties of baked products.

QUALITY CONTROL AND PRODUCT DEVELOPMENT — Part B

TF 130B **Fee: $30.00, 60 hours, Campus K**

Time — to be announced

Inquiries should be made at the admissions office, 21 Nassau Street.
Phone: 967-1212, Ext. 607.

Prerequisite: Succesful completion of Part A.

Course Content: A study of quality control measures, from the incoming ingredients to the finished product, including statistical control measures, random selection, and in-plant product evaluation. Laboratory practice will also be included.

BAKERY ENGINEERING AND EQUIPMENT — Part A

BK 139A **Fee: $30.00, 60 hours, Campus K**

Time — to be announced

Inquiries should be made at the admissions office, 21 Nassau Street.
Phone: 967-1212, Ext. 607.

Course Content: Basic physics, engineering drawing, mechanics, electricity, and heat exchange.

BAKERY ENGINEERING AND EQUIPMENT — Part B

BK 139B **Fee: $30.00, 60 hours, Campus K**

Time — to be announced

Inquiries should be made at the admissions office, 21 Nassau Street.
Phone: 967-1212, Ext. 607.

Prerequisite: Successful completion of Part A.

Course Content: The knowledge gained in Part A will be applied to bakery and equipment, and its efficient use. Faults and breakdowns, plant layout, and preventative maintenance scheduling will also be included.

CEREAL CHEMISTRY AND TECHNOLOGY — Part A

FT 130A **Fee: $30.00, 60 hours, Campus K**

Time — to be announced

Inquiries should be made at the admissions office, 21 Nassau Street.
Phone: 967-1212, Ext. 607.

Course Content: The botany and chemistry of the following cereals will be studied, together with the various types of mill processes: wheat, rye, barley, rice, oats, sorghum etc.

CEREAL CHEMISTRY AND TECHNOLOGY — Part B

FT 130B **Fee :$30.00, 60 hours, Campus K**

Time — to be announced

Inquiries should be made at the admissions office, 21 Nassau Street.
Phone: 967-1212, Ext. 607.

Prerequisite: Successful completion of Part A.

Course Content: This course is a study of the uses of cereals after the milling process, including the chemical and physical changes that take place under such further processing as panary fermentation, malting, baking and breakfast cereal production.

BAKERY MANAGEMENT — Part A

BK 140A **Fee :$30.00, 60 hours, Campus K**

Time — to be announced

Inquiries should be made at the admissions office, 21 Nassau Street.
Phone: 967-1212, Ext. 607.

Course Content: A study of bakery management, which includes general managerial principles, supervisory practice, general accounting principles and their application in bakeries.

BAKERY MANAGEMENT — Part B

BK 140B **Fee :$30.00, 60 hours, Campus K**

Time — to be announced

Inquiries should be made at the admissions office, 21 Nassau Street.
Phone: 967-1212, Ext. 607.

Prerequisite: Successful completion of Part A.

Course Content: This program includes the preparation of work schedules for individual employees, production schedules for a variety of types of production lines, work study in the bakery and its applications.

Graphic Arts Part-Time Courses

TYPOGRAPHY
GR 100 Introduction to Typography
GR 101 Hot Metal Composition
MONOTYPE & PHOTO COMPOSITION
GR 200-A Montoype Keyboard (Basic)
GR 202 Photo Composition (Operating Course: Linotype VIP)
GR 203 Monotype Keyboard (Advanced)
GR 204 Paste Make-Up and Ruling (Basic)
GR 208 Photo Composition (Basic Maintenance: Linotype VIP)
GR 209 Photocomposition (Advanced Maintenance)
PASTE-UP
GR 302 Paste Make-up and Film Assembly (Advanced)
MARK-UP
GR 311 Cold Type Mark-Up (Advanced)
PHOTOMECHANICAL REPRODUCTION
GR 105 Photo Mechanical Reproduction, Basic (Black & White Camera)
GR 205 Photo Mechanical Reproduction, Advanced (Black & White Camera)
GR 305 Photo Mechanical Colour Reproduction (Offset) (Basic Colour Separation, Camera)
GR 306 Photo Mechanical Colour Reproduction (Offset) (Advanced Colour Separation & Scanner)
FILM IMPOSITION
GR 110 Film Imposition & Printing Surface Preparation (Basic Stripping)
GR 210 Film Imposition & Printing Surface Preparation (Advanced Stripping & Platemaking)
GR 310 Film Imposition & Printing Surface Preparation (Colour Stripping & Platemaking)
DIE CUTTING & EMBOSSING
GR 314 Die Cutting & Embossing.
MACHINE PRINTING
GR 115 Machine Printing (Basic & Advanced Multilith)
GR 116 Larger Single Colour Offset Press (Basic)
GR 215 Machine Printing (Rotogravure)
GR 216 Machine Printing Single Colour Offset Press (Intermediate)
GR 217 Machine Printing Two Colour Offset Press (Intermediate)
GR 316 Machine Printing Two Colour Offset Press (Advanced)
BINDING
GR 125 Binding & Finishing
QUALITY CONTROL
GR 220 Quality Control
SCREEN PROCESS
SP 900 Screen Process Printing
SP 901 Screen Process Printing (Basic)
SIGNWRITING
SIGN 900 Signwriting
COMMERCIAL ART
CA 901 Life Drawing
CA 902 Still Life Painting
CA 903 Fundamental Advertising Art

GRAPHIC ARTS

General Note:

Successful completion of three courses at successive levels in the same subject will merit a special subject certificate (e.g., completion of GR 105, GR 205, and GR 305 for a Camera Certificate or GR 115, GR 116 and GR 216 for Single Colour Offset Press Certificate). Credits may be accumulated towards the diploma for the technician program.

INTRODUCTION TO TYPOGRAPHY

GR 100 **Fee: $30.00, 60 hours, Campus T**

Wednesday, 7:00 to 10:00 p.m.

(Apprentices, Thursday, 5:00 to 8:00 p.m.)

This course is designed to provide a general appreciation of the subject through a balanced program of illustrated lectures and practical work. It will also provide the layman with a comprehensive background to enable him to make his own critical assessment in the typographic design field. The emphasis throughout the course will be on the contemporary scene. The historical and technical aspect will be covered only in as much detail as an understanding of contemporary work is required.

Course Content: A definition of typography, historical and technical development, the relationship with other arts, basic principles of design, working methods, typography in various media — books, brochures, advertising etc., future development, preparation of mechanicals and illustrations.

HOT METAL COMPOSITION

GR 101 **Fee: 55.00, 60 hours, Campus T**

Monday, 7:00 to 10:00 p.m.

Prerequisite: Preference given to candidates employed in the graphic arts industry.

Course Content: Basic hand composition; California Job Case; the setting of several projects involving justification, tabular, thumbnail sketches and setting of business cards, stationery and advertisements.

MONOTYPE KEYBOARD (Basic) — Level: Intermediate

GR 200A **Fee: $70.00, 60 hours, Campus T**

Monday, 5:00 to 8:00 p.m.

Prerequisite: Hand composition and typewriting ability to 40 corrected wpm on a ten-minute test.

This course is intended to teach the basic of the monotype keyboard system. This introductory course involves the setting of a sraightforward typesetting work; flush left; flush right; centered, leaderwork; and balance sheet modes. Persons completing this course successfully should find little difficuly in adapting to even phototypesetting keyboard systems which are, if anything, simpler. For those who lack the requisite typing skill, attention is drawn to The George Brown College's lumisonic typing course.

PHOTO COMPOSITION (Operating Course: Linotype VIP)

GR 202 **Fee: $55.00, 60 hours, Campus T**

Saturday, 9:00 to 12:00 noon

Prerequisite: Typing skill.

Course Content: This course will enable a student to become a competent phototypesetting computer input operator. The course involves the operation and basic maintenance of both the Linotype VIP, and Photon 713-10/20 Textmaster; tape processing; tape code reading (TTS); and use of a CRT correction terminal. This is not a mere text setting course but involves basic mark-up and keyboarding of complex typesetting problems. The keyboards are AKI-CIT 70's and a PCI-120 Programmable Keyboard.

MONOTYPE KEYBOARD (Advanced) — Level: Advanced

GR 203 **Fee: $70.00, 60 hours, Campus T**

Saturday, 9:00 a.m. to 12:00 noon

Prerequisites: A grade of at least B in monotype keyboard (basic) or experience in this field.

An intensive work-oriented course designed to teach ideal methods of setting tables, unusual shapes, French, and other complex typesetting problems. Included in this course will also be basic keyboard maintenance and other peripheral information.

PASTE MAKE-UP AND RULING (Basic)

GR 204 **Fee: $55.00, 60 hours, Campus T**

Wednesday, 7:00 to 10:00 p.m.

Prerequisites: One year of typesetting experience.

This course teaches the basic skills required in the making up of pages using paper positives to produce camera ready paste-ups. The student will be expected to successfully complete a wide range of jobs from the simple letterhead to the imposition of an 8-page brochure. Included will be the utilization of display setting machines, transfer sheets, prints and screened prints which will be exposed and developed in a darkroom. Ruling will be done using both hand methods and machines. Depending on the composition of the class, the emhpasis may be on commercial or newspaper paste-up techniques.

PHOTO COMPOSITION (Basic Maintenance: Linotype VIP)

GR 208 **Fee: $55.00, 60 hours, Campus T**

Wednesday, 7:00 to 10:00 p.m.

Prerequisite: Typesetting experience

Course Content: This course is designed to teach basic maintenance on the Linotype VIP. The content will cover optics cleaning and adjusting; reader maintenance, general mechanical and electro-mechanical servicing; filmstrip care; and other related matters. In addition repair of AKI keyboards will be taught. Processing tapes will also be dealt with.

PHOTO COMPOSITION (Advanced Maintenance) — Level: Advanced

GR 209 **Fee: $55.00, 60 hours, Campus T**

Monday 7:00 to 10:00 p.m.

Prerequisites: A grade of B or higher in the GR 208 course or proof of experience in phototypesetting to a similar level.

The advanced maintenance course in photocomposition is primarily concerned with trouble shooting techniques and necessary routine maintenance procedures. A far more detailed description of logic function is entered upon and the student learns how a tape code is translated into a position and a width value internally. A deeper understanding of the arithmetic functioning of the logic unit is also conveyed and malfunctions are contrived in the unit to better illustrate the effects of pac failure. Students are encouraged to participate to the full under close supervision. A great deal of the information and many of the techniques utilised in this course are directly applicable to other phototypesetting devices and this course should not be construed as being limited to trouble shooting on the Photon 713-10/20.

PASTE MAKE-UP AND FILM ASSEMBLY (Advanced)

GR 302 **Fee: $55.00, 60 hours, Campus T**

Saturday, 9:00 to 12:00 noon

Prerequisites: Two years of typesetting experience or the approval of the instructor.

Course Content: Some basic paste make-up techniques are taught at the beginning of this course before entering into film assembly proper. Included is an assessment of quality of reproductions; assembly of required tools and materials; hand ruling and use of various drawing instruments. There will be the make-up and correction of positive film from phototypesetting machines along with other photo products. A limited amount of darkroom techniques is also taught .

COLD TYPE MARK-UP (Advanced)

GR 311 **Fee: $45.00, 42 hours, Campus T**

Tuesday, 5:30 to 8:30 p.m.

This course is intended for journeymen wishing to enter the exacting field of cold type mark-up. Work produced by members of this course is processed under working conditions. The intention of this is to provide a realistic set of circumstances.

Prerequisites: Three years as a compositor (hand or mechanical operator).

Course Content: Includes the evolution of typefaces; type classification; and type identification. The course will progress from basic hot metal mark-up to complex cold type mark-up. A tour of one or more trade plants will be included.

PHOTO MECHANICAL REPRODUCTION, Basic (Black & White Camera)

GR 105 **Fee: $55.00, 60 hours, Campus T**

Tuesday or Wednesday, 7:00 to 10:00 p.m.

Prerequisites: Preference will be given to candidates employed in the graphic arts industry.

Course Content: A basic course covering the operation of process cameras, the calibration of process cameras and darkroom equipment for line, fineline and halftone negatives. The application of coloured filters and use of panchromatic film. Making photographic contact, duplicates, spreads and chokes. The theory of photographic lenses, light sources, film emulsions and processing solutions.

PHOTOMECHANICAL REPRODUCTION, Advanced (Black & White Camera)

GR 205 **Fee: $55.00, 60 hours, Campus T**

Thursday, 7:00 to 10:00 p.m.

Prerequisites This course is designed for persons who have completed basic camera (GR 105), or who have equivalent industrial experience.

Course Content: An advanced course in halftone photography and machine processing. Includes the operation, maintenance and control of film, processors, use of reflection and transmission densitometers. The calibration of various types of contact screens to camera and processing conditions. Making duotones and other techniques. An introduction to colour separation procedures.

PHOTO MECHANICAL COLOUR REPRODUCTION (Offset)

(Basic Colour Separation, Camera)

GR 305 **Fee: $55.00, 60 hours, Campus T**

Monday, 7:00 to 10:00 p.m.

Prerequisite: This course is designed for persons who have completed advanced camera (GR 205) or who have equivalent experience in industry.

Course Content: A course designed for students with line and halftone experience. Covers direct and indirect colour separation procedures by various methods. Colour correction by photographic masking. Basic colour theory. Making screened positives and contrast control using CC filters. Includes the operation and control of film processors, densitometers, enlarger and related equipment.

PHOTO MECHANICAL COLOUR REPRODUCTION (Offset)

(Advanced Colour Separation & Scanner)

GR 306 **Fee: 55.00, 60 hours, Campus T**

Saturday, 9:00 to 12:00 noon

Prerequisite: Completion of GR 305 or equivalent industrial experience in colour separation.

Course Content: Covers the study of tone reproduction for black and white and colour printing. The manipulation of tones, taking into consideration the characteristics of the press, paper, plate, film and processing conditions and the copy to achieve quality reproduction on the printed sheet. Practical application of tone reproduction study using camera, enlarger, contacting and electronic scanning.

FILM IMPOSITION AND PRINTING SURFACE PREPARATION

(Basic Stripping & Platemaking)

GR 110 **Fee: $55.00, 60 hours, Campus T**

Monday and Tuesday, 7:00 to 10:00 p.m.

Prerequisites: Preference will be given to candidates employed in the graphic arts industry.

A basic course for black and white and line colour stripping. The course introduces job planning and layout of flats containing line negatives, halftone negative, line colour negatives and duotones. Imposition is included with the preparation of folded dummies and layout sheets for various types of book-

work. Darkroom techniques for making photographic contact and the exposing and development of presensitized offset plates are an important part of this course.

FILM IMPOSITION AND PRINTING SURFACE PREPARATION

(Advanced Stripping & Platemaking)

GR 210 **Fee: $55.00, 60 hours, Campus T**

Wednesday, 7:00 to 10:00 p.m.

Prerequisites: The course is designed for persons who have completed basic stripping (GR 110) or who have equivalent experience in the graphic arts industry.

Course Content: Advanced techniques in black and white, line colour and four colour process stripping are introduced. Also included are contact work and making spreads and chokes, the preparation of various types of offset lithographic plates, step and repeat methods and an introduction to the programming and operation of a photocomposing machine.

FILM IMPOSITION AND PRINTING SURFACE PREPARATION

(Colour Stripping & Platemaking)

GR 310 **Fee: $55.00, 60 hours, Campus T**

Thursday, 7:00 to 10:00 p.m.

Prerequisites: This course is designed for persons who have completed the advance stripping (GR 210), or who have equivalent experience in the graphic arts industry.

Course Content: The emphasis at this level is on four colour process stripping procedures including the preparation of flats containing chokes and spreads, fake colour and colour separation. Colour charts are prepared by the student incorporating the various screen angles and tints. Further experience will be gained in manual step and repeat methods and machine photo composing.

BASIC DIE CUTTING & EMBOSSING

GR 314 **Fee: $45.00, 60 hours, Campus T**

Thursday, 7:00 to 10:00 p.m.

Prerequisite: Two years press experience.

Course Content: Instructions will be given on a 10" x 15" Heidelberg Platen Press and 15" x 20" Heidelberg Cylinder Press. The course will cover the die manufacturing processes and their application; perforations, die cutting and creasing, plate sinking, hot and cold embossing and a demonstration of foil stamping.

GRAPHIC ARTS

MACHINE PRINTING (Basic & Advanced Multilith)

GR 115 **Fee: $45.00, 60 hours, Campus T**

Tuesday, 6:00 to 10:00 p.m.

Prerequisites: Preference will be given to the candidates who have some knowledge of offset duplicators.

Course Content: A beginners' course covering the fundamentals of offset lithography, feeding dampening systems (both conventional and alcohol), ink control, and running of one colour, multi-colour and process colour projects. This program leads to GR 116.

MACHINE PRINTING—LARGER SINGLE COLOUR OFFSET PRESS (Basic)

GR 116 **Fee: $55.00, 60 hours, Campus T**

Tuesday, 6:00 to 10:00 p.m.

Offset lithography on single colour Heidelberg, Harris and Miehle presses. (Basic).

This course is designed for candidates with a working knowledge of printing and printing machinery.

Prerequisites: Completion of GR 115 or equivalent.

Course Content: Good housekeeping and safety. Lubrication, Measuring instruments and devices for pressmen. Cylinder arrangements. Dampening system, conventional and with alcohol, inking and register systems. Plate, paper and ink as related to the pressman. Successful operation of a single colour press.

MACHINE PRINTING (Rotogravure)

GR 215 **Fee: $55.00, 60 hours, Campus T**

Tuesday, 7:00 to 10:00 p.m.

This course is designed to acquaint students with the principles of roll fed printing equipment.

Prerequisites: Experience with web fed press equipment.

Course Content: Press equipment is a two-unit "Lembo" Rotopress. Course covers safety, housekeeping, lubrication, roll feed and web tension, the printing unit, rotogravure process, services on press of air, water, gas and electrical controls, oven drying, roll rewind, circulating pump for inking system, roto inks and compatible solvents, ink viscosity measuremets, doctor blade finishing, position register, substrates, running problems and corrections.

MACHINE PRINTING — Single Colour Offset Press (Intermediate)

GR 216 **Fee: $55.00, 60 hours, Campus T**

Thursday, 6:00 to 10:00 p.m.

Offset lithography on single colour Heidelberg, Harris and Miehle Presses. (Intermediate).

This course is designed for the student who wants to upgrade his present skill or has completed GR 116.

Course Content: Colour matching. Projects run during this course will include one colour, multi-colour and process work.

MACHINE PRINTING — Two Colour Offset Press (Intermediate)

GR 217 **Fee: $55.00, 60 hours, Campus T**

Tuesday, 6:00 to 10:00 p.m.

Offset lithography on two-colour Harris and Miehle Presses.

Prerequisites: Candidates presently running single colour presses or having completed GR 216.

Course Content: Fundamentals of offset lithography, feeding, inking systems, dampening systems, (conventional and alcohol), press familiarization, theory and practical application of two-colour offset printing.
This course leads to advanced pressmanship GR 316.

MACHINE PRINTING — Two Colour Offset Press (Advanced)

GR 316 **Fee: $55.00, 60 hours, Campus T**

Thursday, 6:00 to 10:00 p.m.

Prerequisites: Completion of GR 217 or equivalent industrial experience.

Course Content: Register, cylinder arrangements, application of Ph, pressroom chemistry, paper, ink, colour matching and densitometer application. Projects run during this course will include two-colour, multi-colour and process colour work. Upon completion of this course a day school credit is obtained.

BINDING AND FINISHING

GR 125 **Fee: $30.00, 60 hours, Campus T**

Monday, Tuesday, Wednesday and Thursday (as required), 7:00 to 10:00 p.m.

Prerequisites: Elementary mathematics and ability to follow instructions in English.

Course Content: Instruction will be in the use of a selection of the following equipment with an aim of bringing a student to production standards:

26 x 40, Model 433, Mark II, Baum Folder, Dial-O-Matic Feed.
Muller Super Gathering Machine, Type 201 with three feeding stations.
Smyth No. 12 Book Sewing Machine.
Bostitch No. 19E Stitcher.
Challenge RKH Paper Drill with Round Cornering Attachment.
Hobbs 50 inch Bench Shear.
Shaeffer 22 inch Gluer.
Hickock 00 ½ Standing Press.
42 inch Seybold Citation Autospacer, 12 Channel.
Muller Pony 5 Roto Binder.
Muller Automatic Stitcher, one Automatic & two Hand Feed Stations.
Christensen Gang Stitcher, Five Stations, Hand.
17x22 Baum Folder, Pile Feeder.
Job Backer.
Cohasset Tipper.
Stamping Press.
Cerlox Table Top Combo.
Table Stripper.
Casemaking Gauge.
6 Sewing Frames.
Richard Die Making Equipment.

PROCESS QUALITY CONTROL

GR 220 **Fee: $45.00, 60 hours, Campus T**

Tuesday, 7:00 to 10:00 p.m.

Prerequisites: Experience in technical sales and services, present employment as supervisor in a printing plant or employed in the quality control department of printing, paper and ink industries.

Course Content: Paper: Manufacture of paper and board, paper properties and their requirements for each printing method. Coated and uncoated paper. Problems related to runnability and printability. Basic quality control tests for paper properties.

Ink: Basic raw materials, the formulation of inks and their properties as related to each printing process. Ink, paper and the printing press relationship. Planning and co-ordination of ink and paper properties for optimum print quality. Tests for ink quality control and trouble shooting.

SCREEN PROCESS PRINTING

SP 900 **Fee: $30.00, 60 hours, Campus C**

Monday, 7:00 to 10:00 p.m.

This course is designed for persons currently employed in this field who wish to upgrade their skills in the more specialized methods of the photographic process.

Course Content: The operation of the process camera, line and halftone film-making; the photo-screening method of silk screen reproduction; preparation of direct screen emulsion stencils, the application and procedure for good screen making.

SCREEN PROCESS PRINTING (Basic)

SP 901 **Fee: $30.00, 60 hours, Campus C**

Wednesday, 7:00 to 10:00 p.m.

This course is designed for persons not in the industry, but who wish to attain skills in basic stencil cutting, screen making and printing.

SIGNWRITING

SIGN 900 **Fee: $30.00, 60 hours, Campus T**

Tuesday, 7:00 to 10:00 p.m.

Prerequisites: This course is designed to give the fundamentals of general signwriting, show card writing and basic screen process printing.

Course Content: Basic pen and brush lettering, type faces, colour theory and practice layout, materials, basic screen process printing.

COMMERCIAL ART

Life Drawing

CA 901 **Fee: $30.00, 60 hours, Campus T**

Tuesday, 7:00 to 9:00 p.m. and Thursday, 7:00 to 9:00 p.m.

Prerequisites: Interest in art.

Course Content: This course is designed to improve the student's ability to draw the human form. Starting with basic outline drawing concentrating on the positive and negative shapes, followed by 20 minute poses. Later in the course he will do full shading drawings with the model holding a sustained pose for the lesson.

Student must supply all art materials for class.

COMMERCIAL ART

Still Life Painting

CA 902 **Fee: $30.00, 60 hours, Campus T**

Monday, 7:00 to 9:00 p.m. and Wednesday 7:00 to 9:00 p.m.

Prerequisites: Interest in art.

Course Content: This course is designed to give the student the fundamentals of still life painting. He will start by doing a charcoal drawing of still life

objects, followed by a monochrome rendering of the objects in oil paint. The student will be taught the fundamentals of colour and values of colour, and will be asked to render a still life in full colour. The student will be given various arrangements of still life to paint throughout the course.

Students must supply all art materials for class.

COMMERCIAL ART

Fundamental Advertising Art

CA 903 **Fee: $30.00, 60 hours, Campus T**

Tuesday, 7:00 to 9:00 p.m. and Thursday, 7:00 to 9:00 p.m.

Prerequisite: Interest in art

Course Content: This course is designed to give the fundamental theories of commercial art, along with some practical work in advertising layout and graphic design, mechanical drawings, paste-up and color separation by amberlith overlays. The student will be given some experience in preparing mechanical camera-ready art work.

Student must supply all art materials for class.

LANGUAGE TRAINING COURSES

LT 902	Polish Language and Heritage
LT 903	Advanced English Reading and Conversation for New Canadians
LT 904	Speaking Canadian French.
LT 905	Chinese Language and Heritage
LT 906A	Italian Language and Heritage
LT 906B	Italian Language and Heritage for Law Enforcement Officers

LANGUAGE TRAINING

POLISH LANGUAGE AND HERITAGE

LT 902 **Fee: $30.00, 60 hours, Campus C**

Monday and Wednesday or Tuesday and Thursday 7:30 and 9:30 p.m.

This course aims at the development of facility in both the speaking and the writing of the language. The language instruction will be given in contexts that reflect the most notable features of Polish European heritage, but will also stress the historical and contemporary involvement of the Polish people in Canada.

ADVANCED ENGLISH READING AND CONVERSATION FOR NEW CANADIANS

LT 903 **Fee: $30.00, 60 hours, Campus C**

Tuesday and Thursday, 7:30 to 9:30 p.m.

An advanced course for students who have already learned to speak and write basic English. The course will include vocabulary development, reading comprehension, business letters and report writing. One evening a week will be devoted to group discussions under the guidance of the instructor.

SPEAKING CANADIAN FRENCH

LT 904 **Fee: $30.00, 60 hours, Campus C**

Monday and Wednesday or Tuesday and Thursday 7:30 and 9:30 p.m.

This course is offered at the basic, intermediate and advanced levels. It concentrates on the acquisition of the distinctive Canadian features of French within general language development appropriate to the individual's competence. The language is presented in relevant French-Canadian socio-cultural context.

CHINESE LANGUAGE AND HERITAGE

LT 905 **Fee: $30.00, 60 hours, Campus C**

Monday and Wednesday or Tuesday and Thursday, 7:30 to 9:30 p.m.

This course offers instruction in Mandarin, but Cantonese will also be offered if there is sufficient demand; it includes introductory oral practice of the language in historical and contemporary cultural contexts. The culture and values of the Chinese people in Canada are particularly stressed. Only brief reference is made to the writing system of the language.

ITALIAN LANGUAGE AND HERITAGE

LT 906A **Fee: $30.00, 60 hours, Campus C**

Monday and Wednesday or Tuesday and Thursday, 7:30 to 9:30 p.m.

This course will be offered at basic, intermediate and advanced levels if there is sufficient demand. It aims to develop language skills in contexts of contemporary Italian values and practices, especially those features of Italian life as they are involved in an urban society such as Toronto's. The situational relevance of the course should make it helpful not only to the general public but especially to those involved professionally with the largest ethnic group in our city.

ITALIAN LANGUAGE AND HERITAGE FOR LAW ENFORCEMENT OFFICERS

LT 906B **Fee: $30.00, 60 hours, Campus C**

Monday and Wednesday or Tuesday and Thursday, 7:30 to 9:30 p.m.

This is a modification of LT 906A, especially designed to meet the needs of law enforcement personnel in this city. The language situations employed are those encountered in the daily practice of police personnel.

MUSIC COURSES

MU 900 Music Enjoyment
MU 901 Music & Speech

MUSIC

MUSIC ENJOYMENT

MU 900 **Fee: $20.00, 20 hours, Campus T**
Wednesday, 7:00 to 9:00 p.m.

This course is designed to bring relaxation and enjoyment to amateur music lovers.

Prerequisite: None.

Course Content: Basics of reading music for voice and keyboard. Individual problems concerning voice and nerve control dealt with personally. Field trips include concerts, rehearsals, etc. Records and history of music discussed; learning to listen and relax aids emotional and social development. Writing lyrics and music encouraged.

MUSIC AND SPEECH

MU 901 **Fee: $20.00, 20 hours, Campus T & CL**
Timetabled daytime throughout the year

This is a post secondary (or equivalent) credit course.

Course Content: Correction of voice problems, e.g., tone, diction, style, nerve control by a specialist in this field. Motivation for written and spoken English is music history and appreciation; communication by reading, impromptu and prepared speech and discussion in class.

Professional Development Courses

TEACHING
ED 900 Teaching Techniques — Evenings
ED 901 Teaching Techniques for Adults

EFFECTIVE SUPERVISION
ES 900 Production
ES 901 Construction
ES 902 Administration
ES 903 Human Relations
ES 904 Labour Relations
ES 905 Communications
ES 906 Municipal Government
ES 907 Hospitals

PROFESSIONAL DEVELOPMENT

TEACHING TECHNIQUES

ED 900 **Fee: $30.00, 60 hours, Campus CL**
Wednesday, 7:00 p.m. to 10:00 p.m.

This course is designed for people in industry, commerce, the professions and adult education who have an interest in the instruction of other people. It is a basic course combining a minimum of pedagogical theory with practical instructional technique.

Course Content: Theories of learning, adult learning, individual differences, subject analysis, lesson planning, curriculum development, lesson types, teaching aids, evaluation, practice teaching, critical appraisals of teaching techniques.

N.B. This course is offered again in January on a twice weekly basis for 10 weeks.

TEACHING TECHNIQUES FOR ADULTS

ED 901 **Fee: $50.00, 90 hours, Campus CL**
3 weeks, 9:00 a.m. to 4:00 p.m. daily

This course is similar in content to ED 900. It is offered on a 3-week, full-time basis, 9:00 a.m. to 4:00 p.m. daily.

The major difference is the additional practice sessions. For teachers employed in hairdressing or barbering schools, the Department of Labour insists on successful completion of this course in order to qualify for a licence to teach. It is also appropriate for teachers or instructors in any adult teaching-learning situation.

It is customary to have 4 to 6 of these classes per year. For exact details please contact our department at 967-1212, Ext. 595 or 598.

SPECIAL COURSES IN SUPERVISION

The following courses are designed to provide additional training for those who are employed in the supervisory field or who are considering employment in this area. Classes will meet one evening a week for ten weeks and may be conducted either at the George Brown College or on company premises.

EFFECTIVE SUPERVISION — PRODUCTION

ES 900 **Fee: $50.00, 25 hours, Campus CL**

Thursday, 7:00 to 9:30 p.m.

This course covers a broad segment of industrial supervision, presenting the philosophical and elementary technology background. It is designed especially for the supervisor and foreman.

The four specific objectives are as follows:
To identify the supervisor's function, to reduce waste of human and financial resources, to reduce basic work and material content, to improve the motivational climate of the organization.

The ten session topics are: Role of the Supervisor, Principles of Effective Supervision, Initiating Proper Action, Motivation of the Worker, Setting Objectives and Goals, Planning, Scheduling, Measuring Results and Evaluating Efficiency, Improvements, and Getting a Day's Work Done.

The case study method will provide the subject matter for each session.

EFFECTIVE SUPERVISION — CONSTRUCTION

ES 901 **Fee: $50.00, 25 hours, Campus CL**

Thursday, 7:00 to 9:30 p.m.

This course has as its objective the increased effectiveness of the supervisor and foreman in a mechanical, electrical or general contracting job. The course covers the fundamental activities of a manager, including production planning and control techiques which are related to this type of work. These are taught in a series of case studies set in appropriate construction situations.

In keeping with modern control techniques, the student is introduced to critical path method and is taught to use it as an aid to effective project management. The course is ten sessions in length, each of approximately two and a half hours.

EFFECTIVE SUPERVISION — ADMINISTRATION

ES 902 **Fee: $50.00, 25 hours, Campus CL**

Tuesday, 7:00 to 9:30 p.m.

The object of the course is to improve the ability of the supervisor. It is designed for supervisors in administrative, office, clerical, professional, technical, financial and commercial fields. It will be beneficial to those in both profit-oriented and service industries, in government organizations, in small, medium or large enterprises. The administrative supervision course can be taken in place of the production or construction courses.

The ten session topics are:

The Role of the Supervisor, Principles of Effective Supervision, Analyzing the Problem, Setting Objectives and Goals, Organizing and Planning, The Human Factor, Flow of Information, Improvement, Evaluating Operations and Controlling Activities, Managing High Talented Personnel.

In each session the student will apply problem-solving techniques to a typical administrative situation.

The material provided includes up-to-date ideas in productivity improvement and systems analysis.

The course is ten sessions in length, each of approximately two and a half hours.

EFFECTIVE SUPERVISION — HUMAN RELATIONS

ES 903 **Fee: $50.00, 25 hours, Campus CL**

Wednesday, 7:00 p.m. to 9:30 p.m.

The objective of this course is to help the supervisor to deal effectively with his problems in the area of personnel management. Using the case method, the student in effect learns by "doing" and studies human relations in accordance with modern management concepts. The cases include a cross-section of incidents in various business concerns.

The ten session topics are:

Understanding People, Selection and Induction, Training Employees, Developing and Maintaining Morale, Elements of Wage and Salary Administration, Effective Communications, Appraising Employee Performance, Discipline and Corrective Action, Understanding the Collective Agreement, Planning and Organizing for Results.

Two alternate sessions are available: Leadership—Resistance to Change.

EFFECTIVE SUPERVISION — LABOUR RELATIONS

ES 904 **Fee: $50.00, 25 hours, Campus CL**

Thursday, 7:00 to 9:30 p.m.

This seminar is designed to help the supervisor and foreman deal effectively with aspects of labour relations, both where collective agreements have already been established and where certification may become possible. The student will study this very important subject by working through a series of case studies, each case specializing in a particular problem. Various businesses are considered in order that the class may gain experience in a variety of settings.

The course consists of ten sessions, each of approximately two and a half hours, dealing with the following topics:

The Employer Employee Relationship; Establishment of Bargaining Rights; Negotiations for Contract, Content of Collective Agreement; Union Security; Management Rights; Complaints, Grievances and Arbitration; Wages; Classification and Benefits—Relationship Arising out of Contracts; Administration of the Collective Agreement.

EFFECTIVE SUPERVISION — COMMUNICATIONS

ES 905 **Fee: $50.00, 25 hours, Campus CL**

Tuesday, 7:00 to 9:30 p.m.

This course has been designed to make the supervisor aware of the importance of communications. It is recognized that a basic need of all managers is that they be able to communicate.

The course is ten sessions in length and will give ample practice in the methods of effective communications, together with the reasons for their use.

The ten session topics are: Communication—its Meaning and Definition; Communication — Problems through Several Levels; Communication is a Two-Way Street; Communication through Conversation; Let's Learn to Listen; Communication through Practice; Barriers to Communication; Verbal Communication; Rules of What and How; The Written Communication.

SUPERVISORY PRACTICES IN MUNICIPAL GOVERNMENT

ES 906 **Fee: $55.00, 38 hours, Campus CL**

Monday, 7:00 to 9:30 p.m.

This is a 15-week course on being a supervisor in a civic government departmen (e.g., roads, garbage, maintenance, waterworks, etc.)

It will be taught by the case study method once a week for 2 and ½ hours.

The major topics covered are:

Unit 1 Elements of Supervision
Unit 2 Leadership
Unit 3 Management Needs Organization and Management Ideas
Unit 4 Job Planning
Unit 5 Getting Action
Unit 6 How to Improve Methods
Unit 7 Induction of New Employees
Unit 8 How to Develop and Maintain Discipline
Unit 9 The Supervisor as a Counsellor
Unit 10 Complaints and Grievances
Unit 11 Appraisal
Unit 12 On-the-Job Instruction
Unit 13 Safety
Unit 14 Cooperation Within the Civic Service
Unit 15 Human and Public Relations

EFFECTIVE SUPERVISION — HOSPITALS

ES 907 **Fee: $50.00, 25 hours, Campus CL**

Wednesday, 7:00 to 9:30 p.m.

This series of 10 case studies has been especially designed for people in a supervisory role, regardless of their department within a hospital. It is applicable to any in the hospital setting who wish to prepare themselves for advancement.

The ten session topics are:

The Role of Hospital Supervisors; Principles of Hospital Supervision; Management by Objectives; Organizing, Dicision-making and Delegating; Performance Appraisal; Attitudes and Motivation; The Management of Change; Training and Development; Handling Discipline and Morale; and Team Development.

Special Techniques Courses

HAIRSTYLING & HAIRDRESSING
BARB 900 Men's Hairstyling
BARB 901 Barbers' Precertification
HAIR 900 Ladies' Hairstyling (Advanced)
HAIR 901 Hairdressers' Precertification
SECURITY
ST 906 Retail Security Orientation
CRAFTS
ST 907 Design in Wool
ST 909 Weaving
ST 910 Stuffed Toys and Animals
ST 911X General Crafts

SPECIAL TECHNIQUES

MEN'S HAIRSTYLING

BARB 900 **Fee: $30.00, 60 hours, Campus K**

Wednesday, 7:30 to 10:30 p.m.

Prerequisite: Ontario Certificate of Qualification and currently employed.
Course Content: Practical haircutting, shampoos, discussion on styles, styling and blow waving, tinting, bleaching, processing, razor cutting, hair pieces.

BARBERS' PRECERTIFICATION

BARB 901 **Fee: $30.00, 60 hours, Campus K**

Monday, 7:00 to 10:00 p.m.

Prerequisite: Students must be registered apprentices who have completed their training but require a review of theory for the Certificate of Qualification exam.
Course Content: A complete review of the theory of the trade as taught to apprentice classes in the full-time day course.

LADIES' HAIRSTYLING (Advanced)

HAIR 900 **Lab fee $24.00, Total fee $60.00, 60 hours, Campus K**

Monday and Wednesday, 7:00 to 10:00 p.m.

Course Content — review of basic techniques, advanced methods of scissor cutting, blow waving, ironing, back-combing and back-brushing techniques, handling long hair, hair pieces and current fashion trends.
Prerequisite: Ontario Certificate of Qualification and currently employed.

HAIRDRESSERS' PRECERTIFICATION

HAIR 901 **Fee: $30.00, 60 hours, Campus K**

Monday and Wednesday, 7:00 to 10:00 p.m.

Prerequisite: Students must be registered apprentices who have completed their training but require a review of theory for the Certificate of Qualification exam.

Course Content: A complete review of the theory of the trade as taught to apprentice classes in the full-time day course.

RETAIL SECURITY ORIENTATION

ST 906 **Fee: $20.00, 30 hours, Campus C**

Monday, 7:00 to 10:00 p.m.

Prerequisite: A desire to minimize retail security problems. The course will deal with the many aspects of the security program including systems and controls.

Course Content: Enhancing retail security by learning how to deal with problems of shoplifting (including juveniles), dishonest employees, imposters, fraudulent cheque operators.

DESIGN IN WOOL

ST 907 **Fee: $20.00, 30 hours, Campus K**

Thursday, 7:00 to 10:00 p.m.

Prerequisites: A desire to express creative ability through the medium of wool and its structure.

Course Content: The course is designed to give a basic understanding of the layout and progressive construction of crochet wool hangings, murals and mobiles through the medium of wool. The effects of lighting, rhythm and the direct and indirect movement of wool in producing frame and curved designs will develop. The designing and making of wool jewellery, earrings, necklaces, Indian bibs and breast plates should produce a challenge to the most vivid, creative imagination.

WEAVING

ST 909 **Fee: $55.00, 30 hours, Campus T**

Thursday, 7:00 to 10:00 p.m.

Prerequisite: A keen desire to learn hand weaving.

Course Content: Beginners will learn the basic of hand weaving which will include practical instruction and theory in plain and twill weave. Finger technique, project work and overshot weaving will result as experience is gained on the 27-inch floor looms.

Materials extra.

STUFFED TOYS AND ANIMALS

ST 910 **Fee: $20.00, 30 hours, Campus K**

Tuesday, 7:00 to 10:00 p.m.

Prerequisite: A knowledge of basic sewing along with recreational interest.

Course Content: The course will introduce the proper layout of patterns so that cutting and fitting will coincide in producing a well made product which will necessitate proper stitching, stuffing and invisible finishing. Particular attention will be paid to faces, wigs and movable arms. Sources of material, manufacture and sale of finished products and possible markets will be presented.

GENERAL CRAFTS

ST 911X **Fee: $20.00, 30 hours, Campus K**

Wednesday 7:00 to 10:00 p.m.

Prerequisite: A general knowledge of sewing.

Course Content: Ingenuity and flair plus training will result in desirable skills which will be reflected in results obtained as the following crafts are encountered:

Decoupage, papier tole, apple dolls, fine stitchery, Christmas decorations, bread-dough art, papier mache and innovations.

YOGA (Hatha Yoga)

YOGA 900 **Fee: $20.00, 24 hours, Campus CL**

Wednesday, 7:00 to 9:00 p.m.

This 12-week course, one of the fastest growing physical activities in North America, is offered twice during the school year. It is designed to qualify students to teach hatha yoga, pranayama breathing exercises, relaxation therapy, and meditation. Certification is granted at the completion of the course.

ADVANCED TECHNICAL EVENING CLASS PROGRAM GENERAL INFORMATION

The Advanced Technical Evening Class Program will comprise the subjects listed under the table of contents on pages vii and viii.

Theory programs will be 60 hours in length consisting of twenty (20) three-hour lectures. Technical science programs will be 60 hours in length consisting of forty (40) hour-lectures and twenty (20) hour-laboratory sessions.

Counselling and personal interviews will be held during the evenings of registration.

The Colleges of Applied Arts and Technology within the Greater Metropolitan Toronto area will be offering the following series of block programs to assist their students to better schedule their part-time courses in the advanced technician field. The blocks follow:

CIVIL
Mathematics I — MATH 100
Mathematics II — MATH 200
Physics I — PHYS 100
Surveying — SURV 101
Mechanics I — MECH 100
Mechanics of Materials I — MECH 110

ELECTRICAL
Mathematics I — MATH 100
Mathematics II — MATH 200
Electrical Fundamentals — EL 905
Electronic Fundamentals — ELTC 904
Physics I — PHYS 100
Electrical Drafting (Basic) — EL 903

ELECTRONICS
Mathematics I — MATH 100
Mathematics II — MATH 200
Electrical Fundamentals — EL 905
Electronic Fundamentals — ELTC 904
Physics I — PHYS 100

MECHANICAL
Mathematics I — MATH 100
Mathematics II — MATH 200
Mechanics I — MECH 100
Mechanics of Materials I — MECH 110
Electrical Fundamentals — EL 905
Physics I — PHYS 100

The above courses are for persons who hold a secondary school graduation diploma or the equivalent and who wish to begin or continue their education in the various technologies. A minimum of 50% for each subject, with an overall average of 60% is required for the certificate issued by O.A.C.E.T.T.

Optional subjects may be selected but approval of the selection by the school of your choice is necessary. By adding English I and one more technical subject the student can qualify for the A.T.E.C. grade I certificate.

Complete information on the Advanced Technical Evening Class programs is available from the Ontario Department of Colleges and Universities, Mowat Block, Queen's Park, Toronto 182, Ontario.

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— Elementary Speed — SH 904 40
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— Theory — SH 903 40
Propane Gas — AP 902 24
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— Above Knee Amputations — PROS 900 73

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— Part A — TF 130A 92
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— Industrial I — TEST 903 71
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— Part I (Basic) — REF 900 25
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— Part III (Certificate of Qualification) — REF 902 25
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Sanitation & Hygiene
— Part A — SAN 130A 91
— Part B — SAN 130B 91
Science
— College Preparatory (Grade 9) — SC 146A 10
— College Preparatory (Grade 10) — SC 146B 10
— College Preparatory (Grade 11 or Grade 12 Physics) — SC 147A 10
— College Preparatory (Grade 11 or Grade 12 Biology) — SC 147B 11
— College Preparatory (Grade 11 or Grade 12 Chemistry) — SC 147 11
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— SP 900 102
— Basic — SP 901 102
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— II — Serger Machine — SEW 142 79
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— Pattern Drafting I — SM 900 19
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— Forkner — Speed — SHF 149b 41
— Forkner — Theory — SHF 149a 41
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— Machine — Elementary Speed Level — SHM 101 41
— Machine — Intermediate Speed Level — SHM 200 42
— Machine — Theory — SHM 100 41
— Pitman — Elementary Speed Level — SHP 101 42
— Pitman — Intermediate Speed Level — SHP 200 42
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— Pitman Theory — SHP 100 42
— Programme 21 — Elementary Speed — SH904 40
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— 4th Class 30
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— Communications — ES 905 109
— Construction — ES 901 108
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— Human Relations — ES 903 109
— Labour Relations — ES 904 109
— Municipal Government — ES 906 110
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— Plane Surveying — SURV 101 29
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— I — EDP 922 45
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— Techniques (Evenings) — ED 900 107
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— I — ENDR 105 60
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— Acting for Beginners — THEA 900 6
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T.I.G. & M.I.G. Welding — Aluminum & Stainless Steel — WELD 910 60

T.I.G./M.M.A. — Pipe Welding "C" — WELD 906 59

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— Stuffed — ST 910 112

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— A (Beginning Typewriting) — TYP 152a 43
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— Maintenance — WELD 908 59
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— Oxyacetylene — Pipe Welding "D" — WELD 907 59
— Pre-Certificate "A" (C.W.B.) — WELD 902 57
— Pre-Certificate "B" — WELD 903 58
— T.I.G. & M.I.G. — Aluminum & Stainless Steel — WELD 910 60
— T.I.G./M.M.A. — Pipe Welding "C" — WELD 906 59
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— Design in — ST 907 112
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HOUSEKEEPING SERVICES ADMINISTRATION

BASIC SKILLS OF CLEANING AND SANITATION FOR SUPERVISORS

HSA 950 **Fee: $30.00, 60 hours, Campus T**

Monday & Wednesday, 7:00 to 10:00 p.m.

This course is designed for those interested in advancement in the cleaning maintenance field. It is suitable for those working in hospitals, universities, schools and commercial buildings. It is a prerequisite for course HSA 951.
Course Content: Cleaning skills, methods, procedures, products & equipment; surfaces to be cleaned, including all types of floors; housekeeping bacteriology.

BASIC HOUSEKEEPING SUPERVISION

HSA 951 **Fee: $30.00, 60 hours, Campus T**

Tuesday & Thursday, 7:00 to 10:00 p.m.

This course is designed to develop supervisory and management techniques, and is a continuation of HSA 950. Successful completion of both courses HSA 950 & HSA 951 is equivalent to the four-week, fulltime Housekeeping Supervisor course presently given in conjunction with the Ontario Hopsital Association. This certificate is recognized by the Ontario Hospital Association. Students who have a Certified Building Custodian certificate need not take HSA 950 as a prerequisite to course HSA 951.
Course Content: Supervisor's duties and responsibilities; planning and organizing workloads, schedules, training programs; how to instruct; budget preparation and control; communications and safety.

CARPET CARE

CARP 903 **Fee: $20.00, 30 hours, Campus T**

Monday, 7:00 to 10:00 p.m.

This course is designed to meet the increasing need for information in this ever-growing, specialized area of the cleaning maintenance industry. Those who are interested in selection and/or maintenance of carpets will find this a most informative course. It is aimed at building managers, housekeepers, contract cleaners, and those who will be actively associated with the modern equipment now available.
Course Content: Carpet construction, fibres and pile characteristics, installation, cleaning maintenance methods and procedures, spot cleaning and stain removal; use and care of modern equipment — foam to steam extraction; setting up maintenance program; practical work, using a variety of machines and equipment — a most important part of the course.
Note: The Executive Housekeepers Qualifying course sponsored by the Ontario Hospital Association completes the program in Housekeeping Services Administration.
For further information phone Bram Allington, Consultant, Training in Business & Industry at 967-1212, ext. 595.

LANGUAGE TRAINING COURSES

CANADIAN FRENCH

LT 907 **Fee: $40.00, 80 hours, Campus C**

July 3 to July 27, 9:00 a.m. to 1:30 p.m.

Prerequisite: Basic literacy in French.
This course presents the distinctive features of Canadian French along with the culture and life of French Canada.

MUSIC COURSES

MUSICAL GRAMMAR — PART I

MU 902 **Fee: $45.00, 30 hours, Campus T**
Thursday, 2:00 to 5:00 p.m.

This course is designed for the student who can read music, to learn the fundamental theory of music for grade I and grade II theory requirements at the Royal Conservatory of Music (Toronto).

Course Content: Notation; scales; intervals; chords; cadences; time; transposition; ear development.

MUSICAL GRAMMAR — PART II

MU 903 (a) **Fee: $45.00, 30 hours, Campus T**
MU 904 (b) **Monday, 2:00 to 5:00 p.m. AND**
MU 905 (c) **Wednesday, 9:00 a.m. to 12 noon**

These courses provide a thorough understanding of the theory of harmony and modern arranging and composition.

Course Content: II(a) scales; chords; intervals; II(b) cadences; progressions in major; II(c) progression in minor; second and third inversions.

Prerequisite: Musical Grammar Part I or Royal Conservatory of Music grade II theory, and some playing and listening experience.

MU 906 (a) **MUSICAL GRAMMAR — PART III**
MU 907 (b) **Fee: $45.00, 30 hours, Campus T**
MU 908 (c) **Tuesday, 2:00 to 5:00 p.m. AND**
MU 909 (d) **Thursday, 7:00 to 10:00 p.m.**

These courses are a continuation of Musical Grammar Part II and will provide the student with a comprehensive understanding of the extended tonality techniques of modern harmony, composition and arranging.

Prerequisite: Musical Grammar Part II, or equivalent.

Course Content: Mixed-mode techniques; augmented sixth chords; melodic inharmonics; tonicization; sequences; chromatic harmony; parallel harmony; opposed scales; equal division modulation.

POPULAR KEYBOARD (GROUP INSTRUCTION)

MU 910 **Fee: $60.00, 20 hours, Campus T**
MU 911 **Tuesday, 7:00 to 10:00 p.m. AND**
MU 912 **Friday, 9:00 to 12 noon**

These courses are intended for those who wish to be able to play popular music on the piano or organ. Part I is designed for the beginning student, and completion of the three parts serves as a foundation for further study. Instruction is normally two hours per week.

Course Content: Keys; reading music; chords; note values; inversions; key signatures; transposition; arpeggios; keyboard arranging.

SONG WRITING

MU 913 **Fee: $60.00, 20 hours, Campus T**
Monday, 7:00 to 10:00 p.m.

This course is designed for those who wish to write popular songs.

Course Content: Writing music; principles of melody; chords; rhythms; form; melody from chords; poetic materials; rhyming patterns; publishing and copyrighting; composer associations.

STAGE BAND

MU 914 ***No fee for students in music courses, Campus T**
Friday, 1:00 to 4:00 p.m.

This rehearsal band is designed to present ensemble training of the highest calibre. Modern arrangements and compositions featuring contemporary sounds will be used.

* Other students with their own instruments may be permitted to enrol for band only, on payment of the standard fee.

MU 915 **COLLEGE CHOIR**
Wednesday, 3:30 to 5:00 and 5:30 to 7:00 p.m. Campus T
Thursday, 3:30 to 5:00 p.m. Campus CL

The choir gives an opportunity for practice and performance to all who are interested, and especially to those enrolled in music courses (e.g., MU 900, Music Enjoyment).

PROFESSIONAL DEVELOPMENT

PSYCHOLOGY OF PROFESSIONAL SELLING

ES 908 **Fee: $40.00, 25 hours, Campus CL**
Tuesday, 7:00 to 9:30 p.m.

Objectives: To help the salesman improve his role as a problem-solver, territory manager, and customer educator; to stress the need for a more professional approach to selling in this era of technological development when salesmen have to cope with a multitude of new and competitive products; to point out the essential role that the salesman plays in our economy and the need and advantages of continuous study and personal development.

Course Content: This course stresses the psychological approach to selling. It deals with the needs, characteristics, and behavior of prospects and customers and illustrates how this knowledge can be used for more effective selling. Men and women who sell industrial products, intangibles, automobiles, real estate, etc., will benefit from the course. It will be particularly useful as a refresher for senior salesmen.

WORK STUDY

ES 909 **Fee: $50.00, 60 hours, Campus CL**
Wednesday, 7:00 to 10:00 p.m.

Objectives: The objective of the work study course is to prepare the student for effective participation in a work study program in his own company. It will be beneficial to operating managers and supervisors since the techniques

may be applied to any operation, large or small. It will also provide a strong base on which any young analyst may build his experience.

Course Content: Work study is made up of method study and work measurement, otherwise known as method and time study, and includes the principles of work simplification. It is designed to cover the techniques that are most practical in the short-run, multiple-product Canadian industrial system. Topics include objectives of work study; steps to method improvement; design of method improvement; time-study principles; work sampling; human factor in work study; installation and maintenance of a work-study program.

WORK SIMPLIFICATION

ES 910 **Fee: $50.00, 50 hours, Campus CL**
Thursday 7:00 to 9:30 p.m.

Objectives: The course has been designed to offer the participant an approach to productivity improvement which combines participation and involvement with rigorous analysis. The objective is to increase profits through method improvements. The course will be extremely valuable to supervisors in practically any type of operation.

Course Content: This course deals specifically with the principles of work simplification. Topics include work simplification and productivity; principles and techniques of method analysis; making work simplification work; facilities layouts; the supervisor and work simplification.

PURCHASING

ES 911 **Fee: $40.00, 15 hours, Campus CL**
Tuesday, 7:00 to 9:00 p.m.

Objectives: This course is designed to emphasize certain fundamentals of purchasing that may be applied to any manufacturing business with the object of avoiding costly errors and building a more profitable operation. It will be valuable to owners, managers and all staff with purchasing responsibilities.

Course Content: This is a basic course in purchasing. Topics include determination of needs by function; delivery; quality and price; supplier selection and evaluation; value analysis; refinements in purchasing.

SENIOR SUPERVISOR COURSES

To take any of the following courses a participant must have been a supervisor for a minimum of one year.

HUMAN RESOURCES MANAGEMENT

ES 912 **Fee: $60.00, 25 hours, Campus CL**
Wednesday, 7:00 to 9:30 p.m.

Objectives: To improve managerial skills in dealing with personnel and personnel problems. To show how to achieve a more effective use of manpower.

Course Content: Session 1. Overview. Session 2. Organization and Planning. Session 3. Motivation. Session 4. Selection of Personnel. Session 5. Induction and Training. Session 6. Performance. Session 7. Compensation. Session 8. Industrial Relations. Session 9. Communications. Session 10. Constructing an Effective Environment.

MANAGEMENT FOR RESULTS

ES 913 **Fee: $80.00, 36 hours, Campus CL**
Thursday, 7:00 to 10:00 p.m.

Objectives: To improve the management ability of managers in the senior to middle levels in organizations of all types. Applicants should hold senior responsibility for a complete unit, be willing to devote a considerable amount of time to preparation for the seminar outside of the conference room, have an enquiring mind and a desire to share ideas and experiences regarding the art of management.

Course Content: This course examines the whole process of management. Emphasis is placed on the role of the manager, on basic principles and on advanced concepts such as green lighting, motivation, job enrichment, vertical job loading, and management by objectives.

The ten session topics are:

The Management Process;
The Dynamics of Delegation;
The Starting Point: Getting Organized;
Managing Human Resources;
Motivation Through Job Enrichment;
The Effective Manager in Action;
Management by Objectives;
The Systems Approach;
Setting Objectives and Performance Planning;
Follow-up.

LEADING AND MOTIVATION (JOB ENRICHMENT)

ES 914 **Fee: $90.00, 25 hours, Campus CL**
Wednesday, 7:00 to 9:30 p.m.

This course requires the participant to have been a supervisor for 2 to 5 years and to have had several previous relevant management courses. It is intended for senior supervisors and managers. The participants are usually business and/or industrial supervisors.

There are 2 major divisions:

ES 914A — Administration (in approach and material)
ES 914B — Production (in approach and material)

Aim: (of both courses) — Leading and Motivating is aimed at improving the overall effectiveness of business and industrial supervisors and managers. Objectives: To improve the adminstrative supervisor's ability* in giving real attention to the achievements of the individual employee** while effectively integrating the individual accomplishments of all employees to further the success of the organization.***

* Management development. ** Employee development. *** Organizational development.

Course Content: There will be an emphasis on the administrative supervisor's role in communication, delegation, innovation, motivation, and the technique of vertical job loading.

REAL ESTATE

INTRODUCTION TO REAL ESTATE (DAY CLASSES)

RE 900 **Fee: $100.00, 3 weeks (90 hours), Campus CL**

A new class starts each Monday, 9:00 a.m. to 4:00 p.m.

This course is the prerequisite for a licence to sell real estate in Ontario. 75% attendance at class and 75% on the final examination are required. All text books and forms are supplied.

Course Content: (As prescribed by the Provincial Advisory Committee of the Ministry of Consumer and Commercial Relations).

Session No. 1 — General Information. 2-3 — Real Estate & Business Brokers Act. 4 — General Introduction. 5 — Code of Ethics.. 6 — Broker-Salesman Relationship. 7-8 — Municipal Regulations. 9 — Construction. 10 — New House Sales. 11-12 — Mortgages. 13-14 — Mortgage Financing. 15-16 — Evaluation. 17 — The Vendor. 18 — Listing Agreements. 19 — Advertising. 20 — Specific Advertising. 21-22 — The Prospect. 23 — Contract Law. 24-28 — Agreement of Purchase & Sale. 29 — Review & Glossary of Real Estate Terms.

INTRODUCTION TO REAL ESTATE (EVENING CLASSES)

RE 901 **Fee: $100.00, 90 hours, Campus CL**

Starts: September 11, 1973, Monday & Wednesday, 7:00 to 10:00 p.m.

January 8, 1974, Monday & Wednesday, 7:00 to 10:00 p.m.

Course Content: See RE 900.

SPECIAL TECHNIQUES

UNDERWATER SCIENCE

AUS 900 **Fee: $45.00, 51 hours, Campus CL**

7:00 to 10:00 p.m.

Wednesday, September 12, 1973 — Wednesday, January 16, 1974

Wednesday, May 8, 1974

This course is open to anyone with the ability to swim. The program touches all aspects of snorkeling and scuba and leads to certification. Open water dives and trips south are also an integral part of this course. All equipment is supplied by the College.

Education
For
Employment

AFFIX
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M T W T F

Day(s) Requested (Where Applicable)

Mr. ☐ Mrs. ☐
Miss ☐ Ms ☐

(Check one) Surname Given Name(s)

Address — Street, Apt No

City Province Postal Code

Business Phone Home Telephone Social Insurance Number

Day Month Year

Date of Birth

APPLICANTS MUST BE ONE OF THE FOLLOWING: Canadian Citizen, Landed Immigrant, Student Visa Holder

Date Signature

Make cheques or money order payable to GEORGE BROWN COLLEGE.

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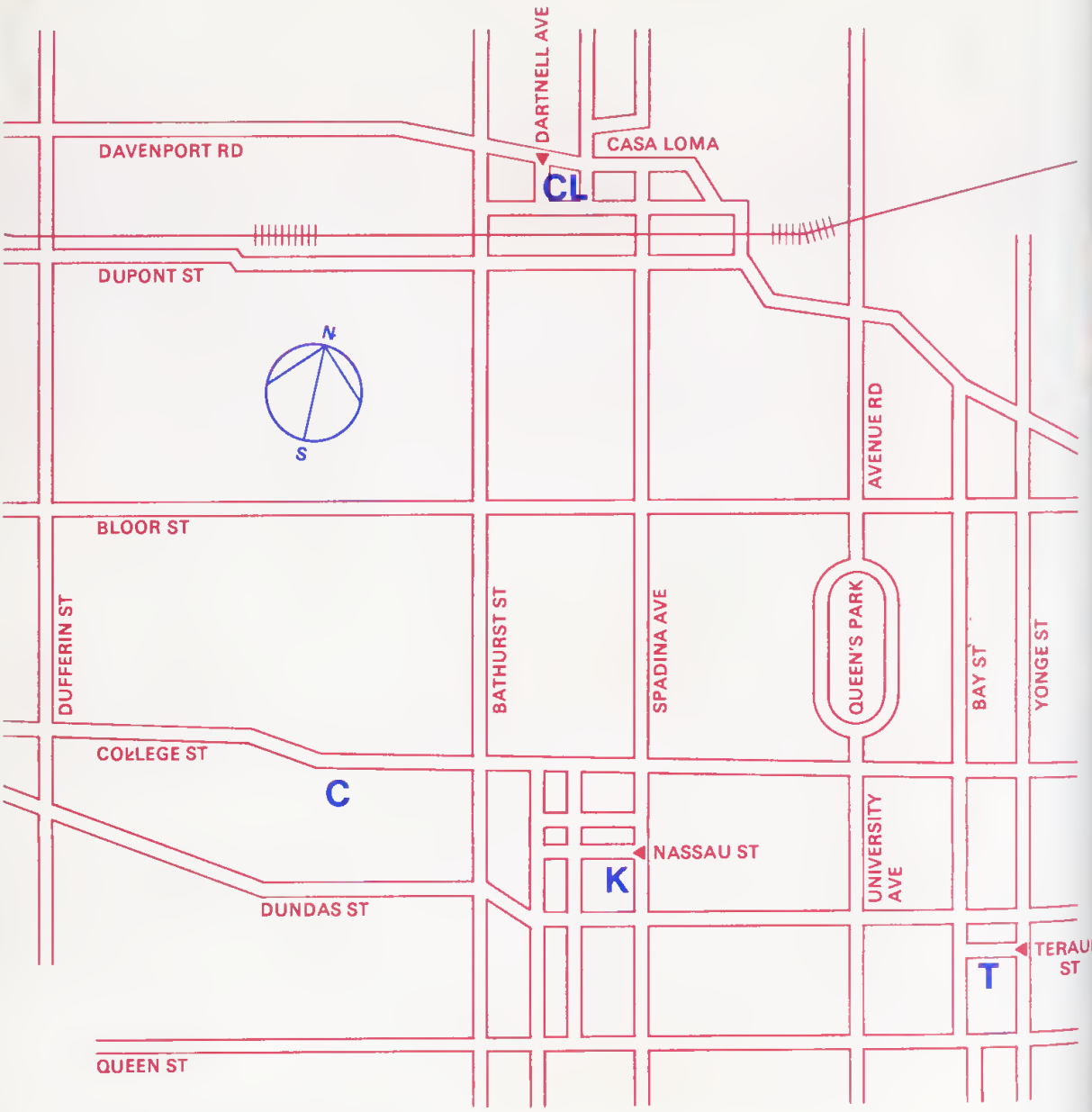

The George Brown College
of Applied Arts and Technology
P.O. Box 1015, Station B,
Toronto, Ontario, M5T 2T9, Canada
Telephone (416) 967-1212

Key to Campus Locations

C	**College Street** **507 College St.**	**K**	**Kensington** **21 Nassau St.**
CL	**Casa Loma** **37 Dartnell Ave.**	**T**	**Teraulay** **51 Teraulay St.**